Borough of West Hartlepool.

ANNUAL REPORT

OF THE

MEDICAL OFFICER OF HEALTH,

FOR THE

Year ended December 31st, 1900.

West Hartlepool :
Alex. Salton, Printer, Argus Works, Dover Street.
1901.

HEALTH COMMITTEE.

ALDERMAN GRAINGER *(Chairman).*
,, FURNESS.
,, CLARKSON.
,, RICKINSON.
COUNCILLOR BIRKS.
,, DYER.
,, EVERTON.
,, COATES.
,, LOAN.
,, HARRISON.
,, JOHNSON.

His Worship the Mayor is Ex-Officio a member of all Committees.

FRED H. MORISON, M.D. Edin.; D.P.H.R.C.S.I.,
Medical Officer of Health.

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Borough of West Hartlepool.

MEDICAL OFFICER'S REPORT

For the Year ended December 31st, 1900.

To the Chairman and Members of the Health Committee.

Sir and Gentlemen,

I have pleasure in presenting to you my second Annual Report, *viz.*, that for the year 1900.

It is satisfactory to note that in most respects our statistics compare favorably with those of last year.

I would particularly draw your attention to the parts of the Report dealing with Infant Mortality and the Housing of the Working Classes. The subject of a Municipal Common Lodging House has occupied your attention during the past six months, and I hope you will, after due consideration, recommend the Council to establish one, as I feel sure it is the one way of preventing overcrowding in our midst.

GEOLOGY.

The soil on which our dwellings are built is a matter of great importance, and much that has been attributed to climate is really due to locality.

Soils are generally divided into moist and dry, permeable and impermeable, and again sub-divided according to formation, composition, slope, &c.

Healthy soils are those which are dry and permeable or which have such a slope as to render drainage easy; on the other hand soils which are flat, moist, and impermeable are generally unhealthy.

The air in soils is generally more or less impure, hence the inadvisability of occupying dwellings below the ground level, or situated immediately on its surface.

The water in the soil is also a question of great importance, apart from the mere moisture.

Healthy soils are the granites, metamorphic rocks, clay-slate, limestone, sandstone, chalk, gravel and sand. Unhealthy are clay, sand and gravel with clay subsoil, alluvial soil, and marsh lands, with the exception of peat lands.

Among the unhealthy soils ought also to be included all "made" soils, particularly those that are formed so often in towns from rubbish of all sorts.

Such soils ought not to be occupied as building sites for at least two years.

West Hartlepool is largely built on Boulder Clay, which over-lies Magnesian Limestone.

This Magnesian Limestone extends a great distance both West and North and terminates in a downward fault shewing New Red Sandstone to the Southward.

The line of division between the Magnesian Limestone and the New Red Sandstone is a straight one ranging from a point on the coast, about half-a-mile North of the Long Scar, through Rift House and Brearton

All North and North-West of this line, as before mentioned, is Boulder Clay upon the Magnesian Limestone.

South and South-East of this line the limits of the Borough are Boulder Clay over-lying the New Red Sandstone.

This Boulder Clay varies in depth very considerably. In some few instances it is not more than a few feet in depth, there being, as is well-known, an outcrop of Limestone near the Water Works, and it is exposed on the cliffs at Hartlepool.

There is also an outcrop, and the stone is quarried, a little West of the Park; whilst there are further outcrops near Hart and Hesleden. These outcrops point to natural anti-clines and this would seem to indicate that between these outcrops there is a large area, forming as it were, a basin or hollow, and the town is largely built upon the clay which has been deposited in this basin.

On the New Red Sandstone the depth of the clay also varies in large degree. In some recent excavations it was found that there was not more than some five or six feet in depth of this Boulder Clay, beneath which was clean sand and this again was overlying Red Marl, while in other cases the layer of Boulder Clay has been found to be of very great thickness.

In certain places outcrops of Sand and Limestone Gravel have been found, as in Park Road, near the Presbyterian Church; also on the rising ground near the West end of Park Road, as well as in Grange Road east of Wooler Road, and it is thought that a narrow belt of this sand and gravel extends from Low Throston nearly to Greatham. This belt is known to widen out Westwardly at the centre to include Dalton Percy and part of Elwick.

The foundation of Seaton Carew is similar to that of West Hartlepool, in so far as it lies on Boulder Clay, but unlike West Hartlepool this Boulder Clay over-lies New Red Sandstone.

To the East of Whitby Street, for a large area, the ground was levelled up with "ships' ballast," composed of sand, marl and gravel.

This "made" ground varies in depth from a foot or two to six or seven feet.

Permission to publish the Geological Survey Maps has been given by the courtesy of the Controller of Her Majesty's Stationery Office, but owing to difficulty in procuring the whole of the maps they cannot be published this year.

METEOROLOGY.

The relation of weather to mortality is a very important enquiry, and though a good deal has been known regarding the question for some time, yet it has only recently been systematically inquired into by Dr. Arthur Mitchell and Mr. Buchan, the results of the investigation, which deals with the mortality of London, being published in the "Journal of the Scottish Meteorological Society" (New Series Nos. 43 to 46).

The weather of any year may be considered as made up of several distinct climates, differing from each other according to temperature and moisture and their relations to each other. It may be divided into six distinct climates, characterised respectively by cold, cold with dryness, dryness, dryness with heat, heat, heat with moisture, and cold with moisture.

Each of these six periods has a peculiar influence in increasing or diminishing the mortality, and each has its own group of diseases which rise to the maximum, or fall to the minimum mortality, or are subject to a rapid increase or a rapid decrease.

The mortality from all causes and at all ages shews a large excess above the average from the middle of November to the middle of April, from which it falls to the minimum in the end of May; it then slowly rises, and in the third week of July suddenly shoots up almost as high as the Winter maximum of the year, at which it remains till the second week in August, falling thence as rapidly as it rose, to a second minimum in October.

Regarding the Summer excess, which is so abrupt in its rise and fall, it is almost altogether due to the enormous increase of the mortality among infants under one year of age; and this increase is due not only to deaths at one age, but to deaths from one class of diseases, *viz.*, bowel complaints. (This is well shewn in the Charts published in my last Annual Report).

If deaths from bowel complaints be deducted from the deaths from all causes, there remains an excess of deaths in the cold months and a deficiency in the warm months. In other words, the curve of mortality is regulated by the large number of deaths from diseases of the respiratory organs. The mortality curve, if infants be excepted, has thus an inverse relation to the temperature, rising as the temperature falls, and falling as the temperature rises. (See Plate 4—Total Deaths, and Plate 2—Temperature).

The curve shews that the maximum annual mortality from the different diseases groups around certain specific conditions of temperature and moisture combined.

PLATE I.

METEOROLOGICAL CHART

(BAROMETER AND RAINFALL),

1900.

Observations taken at 10 a.m., under the direction of Mr. H. Lamb,
Lynn Street, West Hartlepool.

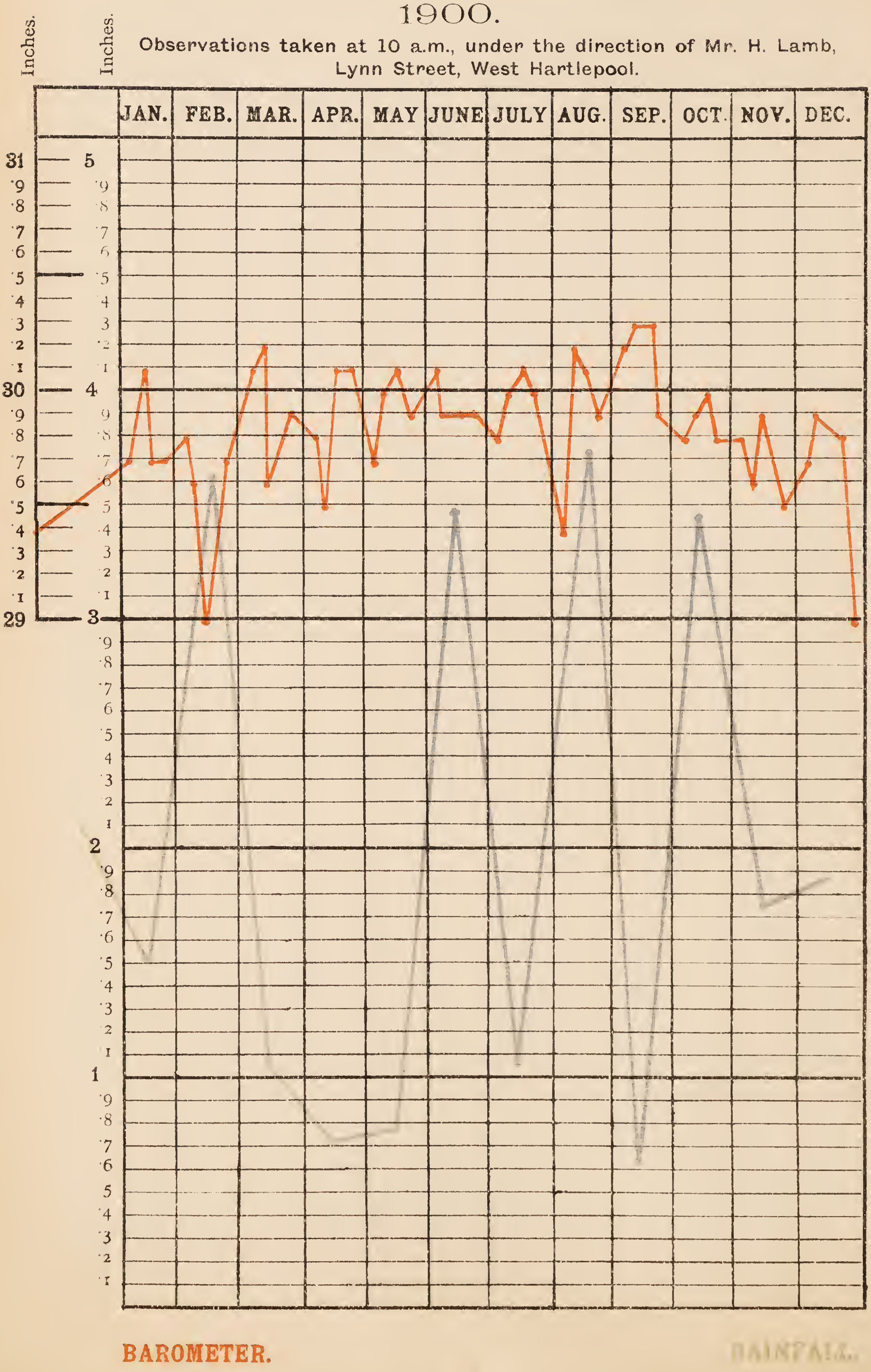


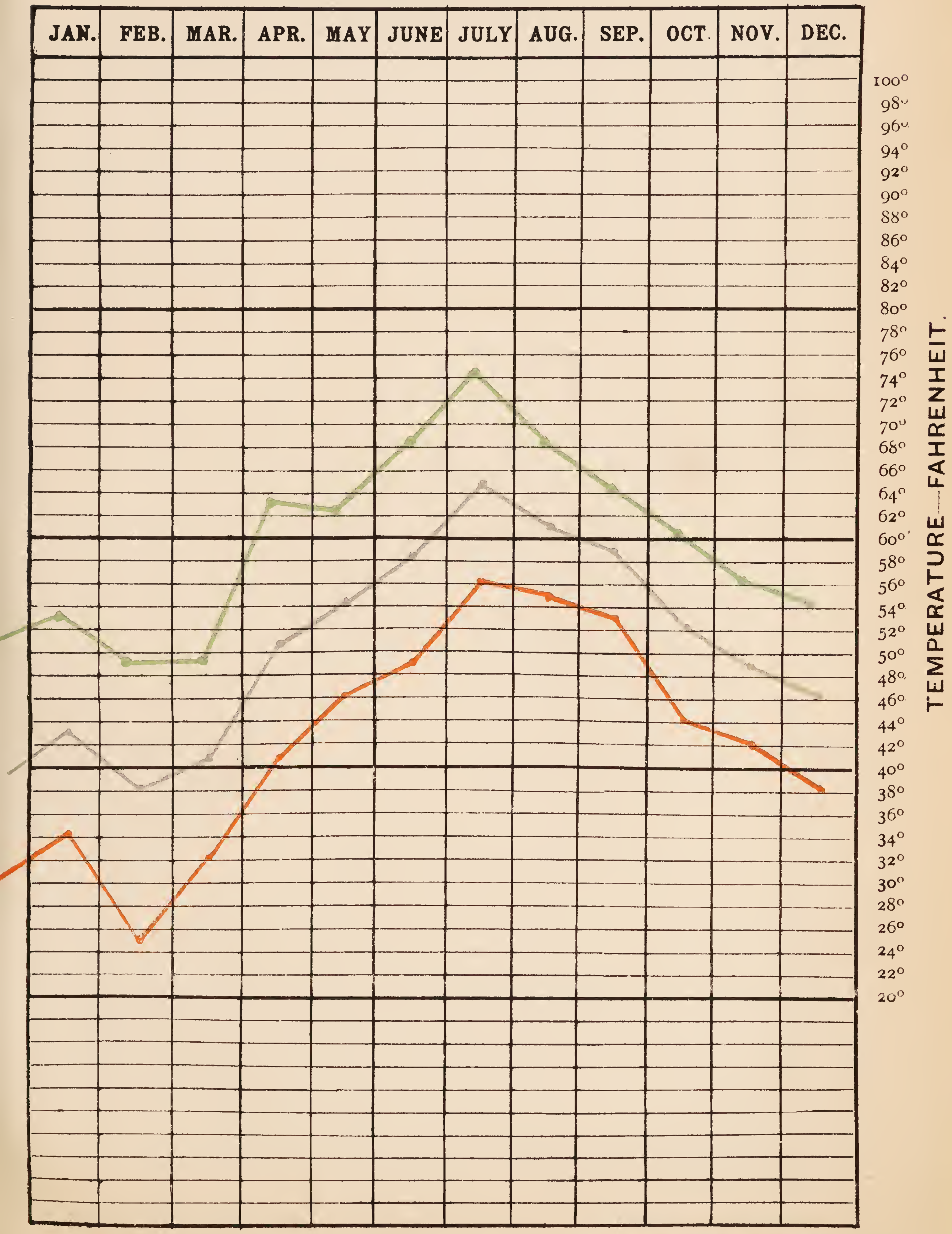
PLATE II.

METEOROLOGICAL CHART

(THERMOMETER),

1900.

Observations taken at 10 a.m., under the direction of Mr. H. Lamb, Lynn Street, West Hartlepool.



MINIMUM CURVE.

MAXIMUM CURVE.

MEAN CURVE.

Thus cold and moist weather is accompanied by a high death-rate from rheumatism, heart disease, diphtheria and measles; cold weather by a high death-rate from bronchitis, pneumonia, etc.; hot weather by a high death-rate from bowel complaints; and warm moist weather by a high death rate from scarlet fever, typhoid, etc.

These facts are well brought out by comparing Plate 1 (Rainfall) Plate 2 (Temperature) and Plate 8 (Deaths from Respiratory Diseases).

We have had practically no hot weather during the year, the hottest month, however, being July, when the death-rate from Epidemic Diarrhœa immediately began to rise and attained its maximum in September and October, and fell again with the temperature. (See Plate 6).

The rainfall this year has been quite exceptional, being the heaviest recorded during the last ten years, with one exception, *viz.*, in 1892.

RAINFALL IN 1900.

Rain Gauge.

Diameter of Funnel	5 in.
Height of top above ground	63 ft.
Height of top above sea level	84 ft.

Month	Total Depth	Greatest Fall in 24 Hours		Number of Days on which .01 or more fell
	Inches	Depth	Date	
January	1·515	·325	6th.	21
February	3·645	·97	26th.	21
March	1·075	·19	20th.	14
April	·745	·27	3rd.	11
May...	·795	·29	8th.	8
June	3·495	·90	14th.	17
July...	1·185	·41	16th.	11
August	3·735	1·42	3rd.	16
September	·640	·34	7th.	9
October	3·405	1·45	26th.	18
November	1·790	·27	3rd.	21
December	1·890	·29	30th.	15
	23·915			182

In February, June and October, more than three inches of rain fell.

In June and October the sewers were unable to carry off the enormous amount of water, and so, many houses in the Stranton district and in the neighbourhood of Murray Street, in the North Ward, were flooded; the water being, in many of the houses, two or more feet deep.

This, however, does not appear to have affected the health of those districts, as no extraordinary amount of disease has prevailed there.

The neighbourhood of Murray Street has been flooded on many occasions, but now that the sewer has been connected with the Throston sewer it is hoped that this will be prevented in the future.

The following table shews the Rainfall for the last ten years.

Year	Rainfall in Inches.
1891	21·51
1892	24·35
1893	15·15
1894	18·83
1895	22·43
1896	17·62
1897	16·41
1898	14·56
1899	18·02
1900	23·91

MARRIAGES.

During the year 581 Marriages were registered in the various Churches, Chapels, and the Registry Office, against 547 in 1899, and 497 in 1898. An increase of 34 on the previous year.

POPULATION.

The estimated population for the whole year is 61,500, and on this I have based my statistics of births and deaths.

The Census is now close at hand and we will then have a true record of the number of inhabitants in the Borough.

The number of inhabitants in each Ward is estimated as follows :—

North	7,638
South-West	10,389
West	10,233
Park	8,569
Seaton	2,215
South-East	8,345
Central	9,684
North-East	4,632
	61,705

The Local Government Board will accept as evidence of present population the number resulting from multiplying the total number of houses inhabited by the average per house at the last census, which would give us a population of about 65,000.

VITAL STATISTICS—BIRTHS.

The number of Births registered during the year was 2,162. The birth-rate per 1,000 of population is thus 35.1 as against

33.82	For 1899
27.55	„ 1898
33.37	„ 1897
32.3	„ 1896
34.8	„ 1895

It is satisfactory to know that our birth-rate has increased, being the highest record for some years, in face of the fact that the birth-rate throughout the country has decreased considerably.

The number of Births in each Ward, and the number of Births each week of the year, with the rate for each week, is shewn in the accompanying table of births.

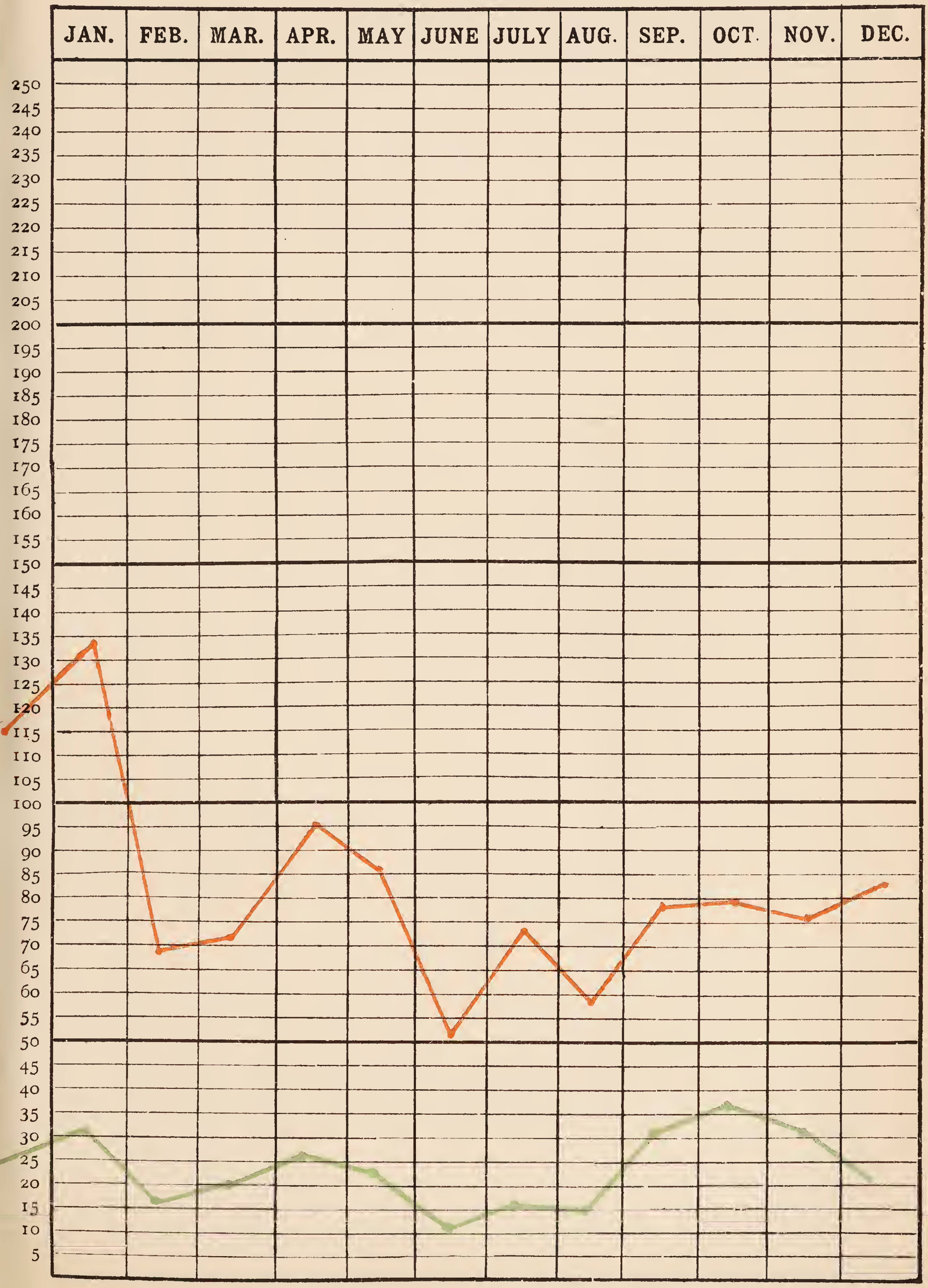
BIRTHS, WITH RATES, IN THE VARIOUS WARDS EACH WEEK.

WEEK ENDING / Wards	North	West	Park	South-West	South-East	Seaton	North-East	Central	TOTAL	Birth-rate per 1,000 per annum
January 6th	5	9	12	5	10	0	2	6	49	41·8
13th	10	8	7	5	10	2	3	2	47	40
20th	4	10	7	10	4	1	1	7	44	37·5
27th	5	6	5	10	11	0	6	10	53	45·1
February 3rd	7	7	5	9	4	2	1	11	46	39·2
10th	3	8	4	8	5	1	2	10	41	34·9
17th	2	8	1	6	7	0	0	3	27	23
24th	5	12	6	10	1	3	3	7	47	40
March 3rd	4	8	3	10	3	0	3	3	34	29
10th	4	4	1	10	3	1	1	3	27	23
17th	5	6	4	5	4	0	3	3	30	25·5
24th	4	10	5	5	8	1	3	12	48	40·9
31st	7	6	4	8	5	0	4	2	36	30·7
April 7th	6	8	5	7	10	0	2	8	46	39·2
14th	3	6	4	6	8	1	0	5	33	28·1
21st	6	7	10	7	14	3	0	4	51	44
28th	6	5	7	10	9	1	4	8	50	42·6
May 5th	4	4	2	5	3	0	1	10	29	24·7
12th	8	10	3	5	9	1	1	7	44	37·5
19th	6	13	3	9	11	2	2	6	52	44·3
26th	7	5	2	9	2	0	1	6	32	27·2
June 2nd	3	8	1	9	2	0	1	11	35	29·8
9th	7	8	6	10	3	0	2	4	40	34·1
16th	1	6	7	13	12	1	6	7	53	45·1
23rd	6	8	7	6	6	1	5	13	52	44·3
30th	7	5	12	3	5	1	2	5	40	34·1
July 7th	6	8	5	5	7	0	4	7	42	35·2
14th	3	12	2	6	6	1	1	8	39	32·7
21st	2	3	3	9	6	2	1	5	31	26·3
28th	5	5	10	8	4	4	3	7	46	38·5
August 4th	7	8	6	4	11	0	1	4	41	34·3
11th	4	8	4	7	5	1	0	9	38	31·8
18th	3	6	4	12	9	3	1	4	42	35·2
25th	6	6	7	8	5	1	1	8	42	35·2
September 1st	6	4	8	13	1	1	2	8	43	36
8th	8	7	7	10	4	1	2	10	49	41
15th	8	11	10	6	7	0	1	7	50	42
22nd	7	9	8	3	3	1	2	8	41	34·4
29th	9	5	11	8	6	3	0	7	49	41
October 6th	7	6	4	4	2	2	2	1	28	23·4
13th	7	3	3	5	8	1	3	11	41	34·4
20th	8	8	3	8	4	1	4	6	42	35·2
27th	7	4	2	7	9	2	0	10	41	34·4
November 3rd	7	4	8	5	7	2	1	5	39	32·7
10th	6	7	4	8	7	10	2	3	47	39·4
17th	4	5	3	7	3	0	0	7	29	24·3
24th	5	12	7	8	4	0	1	5	42	35·2
December 1st	2	12	3	6	7	0	2	7	39	32·7
8th	9	7	3	6	7	0	2	8	42	35·2
15th	3	9	8	4	7	1	7	7	46	38·5
22nd	7	9	3	7	9	1	4	3	43	36
29th	7	4	5	6	4	1	1	4	32	26·8
30th and 31st	2	2	1	1	0	0	1	5	12	35·2
	290	379	275	381	321	61	108	347	2162	35·1

PLATE III.

CHART SHEWING TOTAL DEATHS EACH MONTH CONTRASTED WITH INFANTILE MORTALITY.

1900.



TOTAL DEATHS,
[redacted]. 962.

UNDER ONE YEAR,
283.

DEATHS.

891 Deaths were registered as occurring within the Borough.

From this must be deducted 11 for persons dying within the Borough but not belonging thereto, and addition must be made of—

1 occurring in the Hospital, Greatham
1 ,, ,, Hartlepool
16 ,, ,, Hartlepools Hospital
55 ,, ,, The Workhouse, Throston
5 ,, ,, The Asylum, Sedgefield
1 Drowned in the Reservoir, Hart

A Total of 82 persons belonging to the Borough, who have died elsewhere, giving a total of 962 deaths of persons belonging to the Borough, *viz.:* 536 males, and 426 females.

It has been said that a statistical error arises from deaths outside the Borough being added, and those occurring inside but belonging outside, being deducted, but when, as is done in this County, all deaths occurring in public institutions are relegated to their various districts, this does away with the chance of any such error.

The Death-rate for the year is thus 15·64 per 1,000 of population.

In 1899 the Death-rate was 18·4 per 1,000
,, 1898 ,, ,, 14·8 ,, ,,
,, 1897 ,, ,, 13·91 ,, ,,
,, 1896 ,, ,, 14·5 ,, ,,
,, 1895 ,, ,, 16·2 ,, ,,

The accompanying table shews the ages at which death occurred in the various Wards, and the number of deaths with the death-rate each week.

I have given the number of births and deaths, with the various rates each week throughout the year, because, for the purpose of comparison, I consider it the most accurate.

DEATHS, WITH RATES, IN THE VARIOUS WARDS EACH WEEK.

WEEK ENDING		NORTH WARD.						WEST WARD.						PARK WARD.						SOUTH-WEST WARD.						SOUTH-EAST WARD.						CENTRAL WARD.						NORTH-EAST WARD.						SEATON WARD.						TOTAL	DEATH RATE
		Under 1 year	1 & under 5	5 & under 15	15 & under 25	25 & under 65	65 and up	Under 1 year	1 & under 5	5 & under 15	15 & under 25	25 & under 65	65 and up	Under 1 year	1 & under 5	5 & under 15	15 & under 25	25 & under 65	65 and up	Under 1 year	1 & under 5	5 & under 15	15 & under 25	25 & under 65	65 and up	Under 1 year	1 & under 5	5 & under 15	15 & under 25	25 & under 65	65 and up	Under 1 year	1 & under 5	5 & under 15	15 & under 25	25 & under 65	65 and up	Under 1 year	1 & under 5	5 & under 15	15 & under 25	25 & under 65	65 and up	Under 1 year	1 & under 5	5 & under 15	15 & under 25	25 & under 65	65 and up		
January	6th	...	...	...	...	1	...	2	...	...	...	2	2	...	...	...	...	...	1	1	...	...	1	1	...	2	2	1	...	3	...	2	1	...	1	6	1	...	...	...	...	2	1	...	...	...	...	1	1	35	30·6
	13th	1	...	...	...	1	...	...	...	...	...	...	...	1	...	...	...	2	2	2	...	...	...	2	1	2	...	...	...	1	...	...	...	...	...	1	3	...	...	...	...	1	2	...	1	...	...	1	...	24	23
	20th	1	1	1	...	...	...	3	1	...	...	5	2	...	...	...	...	1	1	1	...	...	...	1	1	...	...	...	...	1	...	2	...	...	...	2	1	1	...	...	1	2	1	2	...	...	...	...	...	32	29·6
	27th	...	...	...	...	...	...	...	...	...	...	...	2	1	...	...	...	...	...	1	...	...	...	1	...	1	...	...	...	2	1	3	3	...	1	1	...	...	...	...	...	4	1	...	...	...	...	1	...	23	23·8
February	3rd	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	1	...	...	1	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	1	1	2	...	...	...	...	...	...	1	...	...	...	...	9	7·6
	10th	...	...	...	...	...	...	...	...	...	1	1	...	1	...	...	...	...	2	1	1	...	...	1	...	...	...	...	...	1	1	3	...	...	...	2	1	...	...	...	...	...	2	1	...	...	...	...	...	19	17·9
	17th	...	...	...	...	...	...	2	1	...	1	2	...	...	...	...	...	2	...	1	...	...	...	1	...	...	...	...	...	2	...	1	1	...	...	1	...	...	...	...	...	2	...	...	...	...	...	...	...	17	16·1
	24th	1	1	...	...	...	...	1	1	...	...	...	1	...	...	...	...	1	...	...	...	...	1	...	...	...	...	...	...	...	...	1	4	...	...	1	1	...	1	...	...	...	...	...	...	...	...	...	...	15	13·6
March	3rd	2	1	1	1	...	...	...	...	...	...	2	...	...	...	...	...	...	...	1	...	...	...	...	...	1	...	...	...	1	...	1	...	...	...	2	...	...	...	...	1	...	...	...	...	...	...	...	1	15	12·8
	10th	...	...	...	...	...	...	...	...	...	...	1	...	...	1	...	...	...	...	...	1	...	...	1	...	3	...	...	...	...	...	...	1	...	...	1	1	...	...	...	...	1	1	...	...	...	...	...	...	12	10·2
	17th	2	...	...	...	2	...	4	...	1	...	...	1	1	...	...	...	...	1	1	...	...	...	1	...	...	2	...	...	...	...	1	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	18	16·2
	24th	...	...	...	...	...	...	...	...	...	...	...	1	1	...	...	...	1	...	...	...	...	...	1	...	1	...	...	...	...	2	...	...	...	...	1	...	...	...	...	...	...	1	...	...	...	...	...	...	9	8·5
	31st	...	...	1	...	1	2	1	...	1	...	...	1	1	...	...	...	...	...	...	1	...	...	2	1	1	...	...	...	1	...	...	1	1	...	3	...	...	...	...	...	...	1	...	...	...	...	...	...	20	18·7
April	7th	3	...	...	...	...	...	1	...	...	...	3	1	...	...	...	...	1	...	1	...	...	...	...	1	1	...	...	1	1	...	...	...	...	1	2	1	...	1	...	...	...	...	...	...	...	...	...	...	19	17·9
	14th	1	...	...	...	1	1	...	...	1	...	...	1	...	...	...	...	1	...	...	...	...	...	1	1	1	...	...	...	3	1	2	2	...	...	2	1	...	...	...	...	...	...	...	...	...	...	1	...	21	19·7
	21st	...	2	...	...	1	...	...	1	...	...	...	2	...	...	...	...	3	...	3	...	...	...	...	2	1	...	...	...	1	...	3	...	...	1	...	...	...	1	...	...	1	1	1	...	...	...	...	...	24	23
	28th	1	...	...	...	1	...	1	...	...	2	...	...	2	...	...	1	...	...	1	...	...	...	1	1	1	...	...	1	...	...	1	1	...	...	2	...	...	...	...	...	1	...	1	...	...	...	1	...	20	17·9
May	5th	1	...	1	...	...	...	...	1	...	1	1	1	...	...	...	...	...	1	...	...	...	...	1	1	...	1	...	1	1	1	...	2	...	...	1	...	...	...	...	...	...	...	1	...	...	...	...	...	17	14·4
	12th	...	...	...	...	...	...	...	2	...	...	1	1	...	1	...	1	1	1	1	...	...	...	1	1	1	...	1	1	1	...	1	...	1	...	...	1	...	1	...	...	...	...	1	...	...	...	...	...	20	17
	19th	2	...	...	...	1	1	...	1	...	...	...	...	1	...	...	1	1	...	1	1	...	...	...	...	2	2	...	...	1	...	2	...	...	...	3	...	...	...	...	...	...	...	...	...	...	...	...	...	20	19·6
	26th	...	...	...	...	...	1	2	1	...	1	...	1	2	...	...	...	...	...	1	...	...	...	1	...	2	...	1	...	1	1	...	...	...	...	...	1	...	...	...	...	1	1	...	...	...	...	...	...	18	16·1
June	2nd	...	...	...	1	...	...	...	...	...	...	...	...	1	...	...	...	...	...	1	...	...	...	1	...	...	...	...	...	...	...	1	1	...	...	2	1	...	...	...	...	...	1	...	1	1	...	...	...	12	11
	9th	...	...	...	...	1	...	...	...	1	...	1	...	...	1	...	...	...	...	...	...	...	...	2	...	1	...	...	...	1	...	...	2	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	11	11·9
	16th	...	...	...	...	...	...	...	2	...	...	...	...	...	...	...	...	...	2	1	1	...	...	2	2	...	...	...	1	...	...	...	...	1	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	13	11·9
	23rd	1	...	...	...	1	1	...	...	...	1	...	...	...	...	...	...	...	...	...	1	...	...	2	...	...	...	...	...	2	1	2	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	12	10·2
	30th	...	...	...	...	1	...	1	...	1	...	...	...	2	...	...	...	...	...	1	...	...	...	1	...	1	...	1	...	1	...	...	...	...	...	...	...	...	...	...	...	1	1	...	...	...	...	...	...	12	10·2
July	7th	...	1	...	...	2	...	1	...	...	...	...	...	...	...	1	...	...	...	1	1	1	...	1	...	1	...	2	...	2	...	...	...	1	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	16	15·9
	14th	...	...	...	...	...	...	1	1	1	...	2	1	...	...	...	...	...	1	1	...	...	...	...	...	1	1	...	...	2	1	...	1	...	...	...	1	...	...	...	...	1	1	...	...	1	...	...	...	18	18·4
	21st	...	...	1	...	1	1	...	1	...	...	...	...	1	...	...	...	...	...	2	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	1	...	...	...	...	...	...	...	10	9·2
	28th	1	...	...	1	...	...	...	1	...	...	...	...	...	...	...	...	1	1	...	...	...	1	...	...	1	...	...	...	...	...	1	...	1	...	3	...	1	...	...	...	...	...	1	...	...	...	...	...	14	13·4
August	4th	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	2	...	...	...	...	...	...	...	1	1	...	...	1	1	...	...	...	1	2	...	...	...	...	...	1	...	11	9·2
	11th	...	...	...	...	1	...	...	...	...	...	2	1	1	...	...	1	1	...	...	...	...	...	...	...	...	...	...	...	1	1	...	...	...	...	1	...	...	...	...	...	...	...	1	...	...	...	...	...	11	9·2
	18th	1	...	...	...	...	1	...	...	...	...	2	...	...	...	...	...	...	...	1	...	...	1	2	...	1	...	...	2	...	...	...	...	...	...	...	1	...	...	...	...	...	1	...	...	...	...	...	...	13	10·9
	25th	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	1	1	...	...	4	...	1	...	...	...	...	...	...	...	...	...	1	1	...	1	...	1	...	...	1	...	...	...	...	...	13	11·6
September	1st	2	1	...	...	1	...	1	...	...	...	1	1	3	...	...	...	2	...	1	1	...	...	1	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	16	13·4
	8th	2	...	...	...	1	...	...	...	...	...	1	1	1	...	...	...	...	...	1	...	...	...	1	...	1	...	...	...	1	...	4	...	...	...	...	...	1	1	...	...	...	...	...	...	...	...	...	...	16	13·4
	15th	...	...	1	...	...	...	1	1	...	...	...	...	2	1	...	...	...	...	...	...	...	...	...	1	...	...	...	...	1	...	2	...	...	...	1	...	...	...	...	...	2	...	1	...	...	...	...	...	14	11·6
	22nd	...	1	...	...	2	...	...	...	...	...	2	...	2	...	...	1	...	...	2	...	...	...	...	...	...	...	...	...	2	...	...	...	...	...	1	...	...	1	...	1	...	1	...	...	...	...	...	...	16	16·7
	29th	...	...	...	...	...	...	1	...	2	...	2	1	1	...	...	...	1	...	3	...	...	...	...	2	2	...	...	...	1	...	3	1	...	...	2	...	...	...	...	...	1	...	...	...	...	...	...	...	23	20·9
October	6th	2	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	3	1	...	1	...	...	1	2	1	...	2	...	2	1	...	...	4	...	2	...	...	...	...	...	...	...	...	...	...	...	23	19·3
	13th	...	...	...	...	2	...	2	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	1	...	2	1	...	...	...	1	2	...	...	...	1	...	...	...	...	...	...	...	1	...	...	...	1	...	15	12·5
	20th	3	1	...	...	...	...	1	1	...	...	1	...	1	...	...	...	1	...	...	1	...	...	1	...	...	...	...	...	...	...	1	1	...	...	1	2	1	...	...	...	1	...	...	...	...	...	...	...	18	13·4
	27th	1	...	...	...	1	...	3	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	2	...	...	...	1	...	2	...	...	...	1	...	...	...	...	...	...	1	...	...	...	...	...	...	13	11·7
November	3rd	2	...	...	...	2	...	1	1	...	...	...	...	...	...	...	...	1	1	...	2	...	...	...	...	2	1	...	...	...	...	4	...	...	...	1	...	...	...	...	...	...	1	...	...	...	...	...	...	19	16·7
	10th	2	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	1	1	...	...	...	...	...	1	2	...	...	...	...	1	...	...	...	2	...	1	...	...	...	...	...	...	...	...	...	...	...	12	10
	17th	3	1	...	...	...	...	...	1	...	...	1	...	...	...	...	...	...	1	1	1	...	...	2	2	2	2	...	...	...	1	1	2	...	1	...	...	1	...	...	...	1	...	...	...	...	...	1	1	26	21·8
	24th	1	...	...	...	1	...	...	...	...	...	...	...	1	...	1	...	...	...	1	...	...	...	2	1	1	1	...	2	1	1	...	2	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	16	13·4
December	1st	...	...	...	...	...	...	3	...	...	...	...	...	...	...	...	...	3	1	...	...	...	...	...	...	2	...	...	...	...	...	1	...	...	...	2	...	3	...	...	...	...	...	...	...	...	...	1	...	16	13·4
	8th	...	...	...	...	1	...	3	...	1	...	2	...	2	...	...	...	...	...	...	1	...	...	1	...	1	1	...	...	1	...	3	...	...	...	2	...	...	...	...	...	...	...	...	...	...	...	...	1	20	17·6
	15th	2	2	...	...	2	...	...	...	...	...	1	...	1	...	...	...	2	...	...	1	...	...	1	1	...	...	...	1	...	1	...	1	...	1	1	1	2	...	1	1	...	...	...	...	...	...	...	...	23	19·2
	22nd	...	...	...	1	1	1	...	...	...	...	2	...	1	3	...	...	...	1	1	...	...	1	3	...	3	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	1	...	20	17·6
	29th	...	...	...	...	...	...	1	...	1	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2	...	...	2	2	...	...	...	...	...	1	...	...	...	...	...	...	10	10
30th and 31st		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2	
		38	12	6	4	30	9	37	18	11	7	40	25	32	7	2	6	27	18	41	16	1	6	47	19	49	19	7	10	40	14	54	32	6	6	62	24	17	9	1	6	25	20	12	3	2	0	10	4	891	
		99						138						92						130						139						184						78						31							

Less—Deaths within, but belonging outside Borough 11

880

Add—Deaths without, but belonging to Borough ... 82

[per ann.

962 = 15·64 per 1000

AGES AT WHICH DEATH OCCURRED.

The subjoined table shews the ages at which death took place:—

	1900	1899	1898	1897	1896	1895
Under 1 year	280	394	290	227	213	259
From 1 to 5 years	116	190	123	125	126	123
„ 5 „ 15 „	36	45	34	26	44	35
„ 15 „ 25 „	45	57	39	35	42	34
„ 25 „ 65 „	281	287	205	176	170	185
„ 65 and upwards	133	155	118	94	99	98
	891	1128	809	683	694	734

280 deaths under one year of age gives an infant mortality of 129 per 1,000 births registered.

The infant mortality, I am pleased to record, is lower than the previous year, when it was 191, and it will be noticed it is also lower than the average throughout the county, the previous year it being higher.

Although this is a matter of congratulation, I still think that it is far too high an infant mortality for a Borough such as West Hartlepool, especially when we notice the fact that we have had no epidemics causing a large loss of infant life.

It can only be attributed to carelessness or ignorance on the part of mothers in the rearing of their infants.

Everything possible is done to try and teach mothers how infants ought to be fed. Leaflets, with full directions as to the management of babies, are given to each person on registering a birth, and some thousands of them were distributed in the poorer parts of the town, but still we have to deplore a high infant mortality. I have reason to believe that the instructions given are often not read, and certainly they are not carried out. (*See Ap. B.*)

I attribute this high mortality amongst infants to the fact that mothers will not be convinced that milk, and milk alone, is sufficient food for a baby till it is over one year of age. Once get this fact taught to young mothers, and also that bread boiley, rusks, and the many patent foods are not suitable for infants—nay, that they are even harmful—then, I think, we will not have to regret the loss of so many young and valuable lives.

But how are we to combat this ignorance and carelessness? The only remedy is education, and this can be arrived at by a scheme such as is carried on in Chesterfield, where they have an "Infant Life Protection Society," or as in Birmingham, where they have female Health Visitors, whose duty it is to visit poor people in their homes and instruct them in the proper management and feeding of infants.

I would commend either of these schemes to the notice of our District Nursing Association as well worthy of their most serious consideration.

MORTALITY IN THE VARIOUS WARDS.

North ...	99	giving a rate of	11·6	per 1,000.
South-West	130	,, ,,	12·5	,,
West ...	138	,, ,,	13·4	,,
Park ...	92	,, ,,	10·7	,,
Seaton ...	31	,, ,,	13·9	,,
South-East	139	,, ,,	16·6	,,
Central ...	184	,, ,,	19·0	,,
North-East	78	,, ,,	16·8	,,

It will be noticed that the Central Ward has the highest death rate, the highest infant mortality, and it is also the most densely populated part of the town.

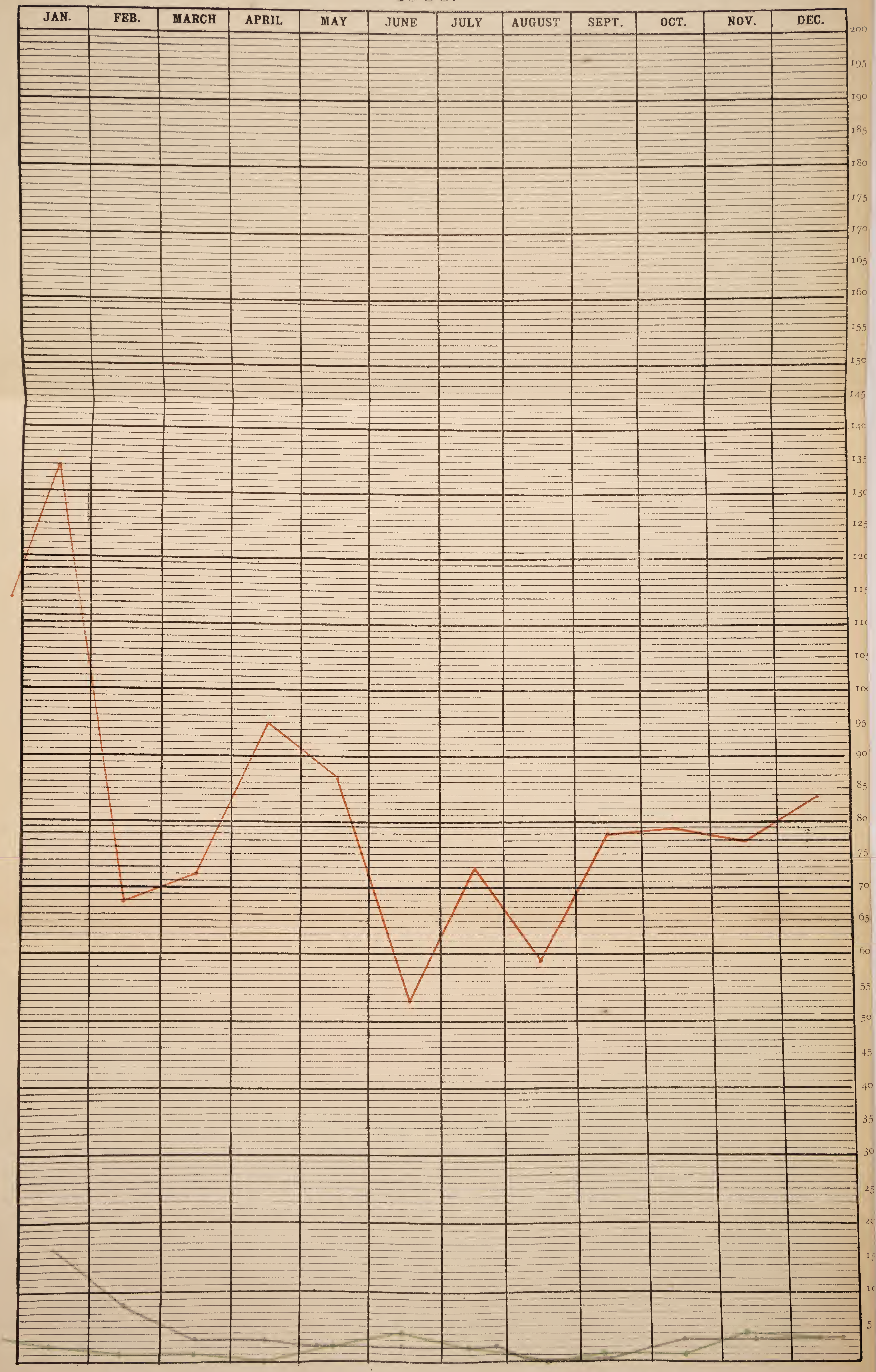
It may be interesting to compare our Vital Statistics with those of the Administrative County of Durham.

	County.	Borough
Estimated Population	819,654	... 61,500.
Birth Rate	35	... 35·1.
Death Rate	18·6	... 15·64.
Zymotic Death Rate	1·27	... 1·95.
Infant Mortality Rate (per 1,000 births)	167	... 129.
Small-pox	nil.	... nil.
Scarlet Fever	0·20	... 0·048
Diphtheria and Membranous Croup ...	0·10	... 0·11.
"Fever" (Typhus, Enteric and Continued)	0·18	... 0·09.
Measles	0·20	... 0·048
Whooping Cough	0·43	... 0·25.
Diarrhœa	0·59	... 0·42.
Enteritis, &c....	0·59	... 0·48.
Phthisis Death Rate	1·26	... 1·37.
Respiratory Diseases Death Rate ...	3·66	... 3·48.

PLATE IV.

CHART SHEWING DEATHS EACH MONTH FROM ALL INFECTIOUS DISEASES CONTRASTED WITH TOTAL DEATHS.

1900.



TOTAL DEATHS, [redacted] 962.

NOTIFIABLE INFECTIOUS DISEASES, 21.

NON-NOTIFIABLE INFECTIOUS DISEASES, 45.

NOTIFICATION OF INFECTIOUS DISEASES.

Below will be seen the Infectious Diseases notified in the Borough each month during the year. Total for the year, 220.

Month	Scarlet Fever	Typh'id Fever	Small-pox	Diph-theria	Ery-sipelas	Puerp'l Fever	Con-tinued Fever	Total
January	4	1	...	...	5	...	1	11
February... ...	3	...	...	1	2	...	...	6
March	3	...	...	2	3	...	...	8
April	3	...	...	1	2	...	...	6
May	9	1	...	3	1	...	...	14
June	9	4	...	3	4	...	...	20
July	7	5	...	1	2	...	...	15
August	4	2	...	1	1	...	...	8
September ...	13	5	...	...	0	...	...	18
October	18	1	4	2	2	...	...	27
November ...	22	4	5	1	1	1	...	34
December ...	48	2	1	1	1	...	...	52
	143	25	10	16	24	1	1	220

A comparison of the Infectious Diseases reported in the past six years is here shown :

	Scarlet Fever	Typh'id Fever	Small-pox	Diph-theria	Ery-sipelas	Puerp'l Fever	Con-tinued Fever	Total
1900	143	25	10	16	24	1	1	220
1899	41	31	...	15	28	1	2	118
1898	96	24	9	11	19	...	...	159
1897	87	39	...	6	23	...	2	157
1896	210	42	2	14	32	2	2	304
1895	184	63	1	23	8	1	3	283

There is an increase of 102 Infectious Diseases reported during the year over those reported the previous year, owing to the number of cases of Scarlet Fever.

CLASSIFICATION OF NOTIFIABLE INFECTIOUS DISEASES ACCORDING TO WARDS.

North	35 against	18	in 1899.
South-West... ...	45 ,,	21	,,
West	47 ,,	19	,,
Park	31 ,,	14	,,
Seaton	6 ,,	6	,,
South-East... ...	28 ,,	16	,,
Central	25 ,,	21	,,
North-East... ...	3 ,,	3	,,

28 cases were removed to the Port Sanitary Hospital, against 16 in 1899, 30 in 1898, 27 in 1897, 27 in 1896, and 35 in 1895.

The cases treated in Hospital were :

Scarlet Fever	16
Typhoid Fever	2
Small Pox	10
	28

ISOLATION HOSPITAL.

The provision for Isolation of Infectious Diseases occurring in the Borough is most inadequate. The Port Sanitary Authority's Hospital is only sufficient for their own requirements and the site, in my opinion, is not a good one.

It consists of a series of wooden buildings, originally built to meet the requirements during a severe epidemic of small-pox in 1885.

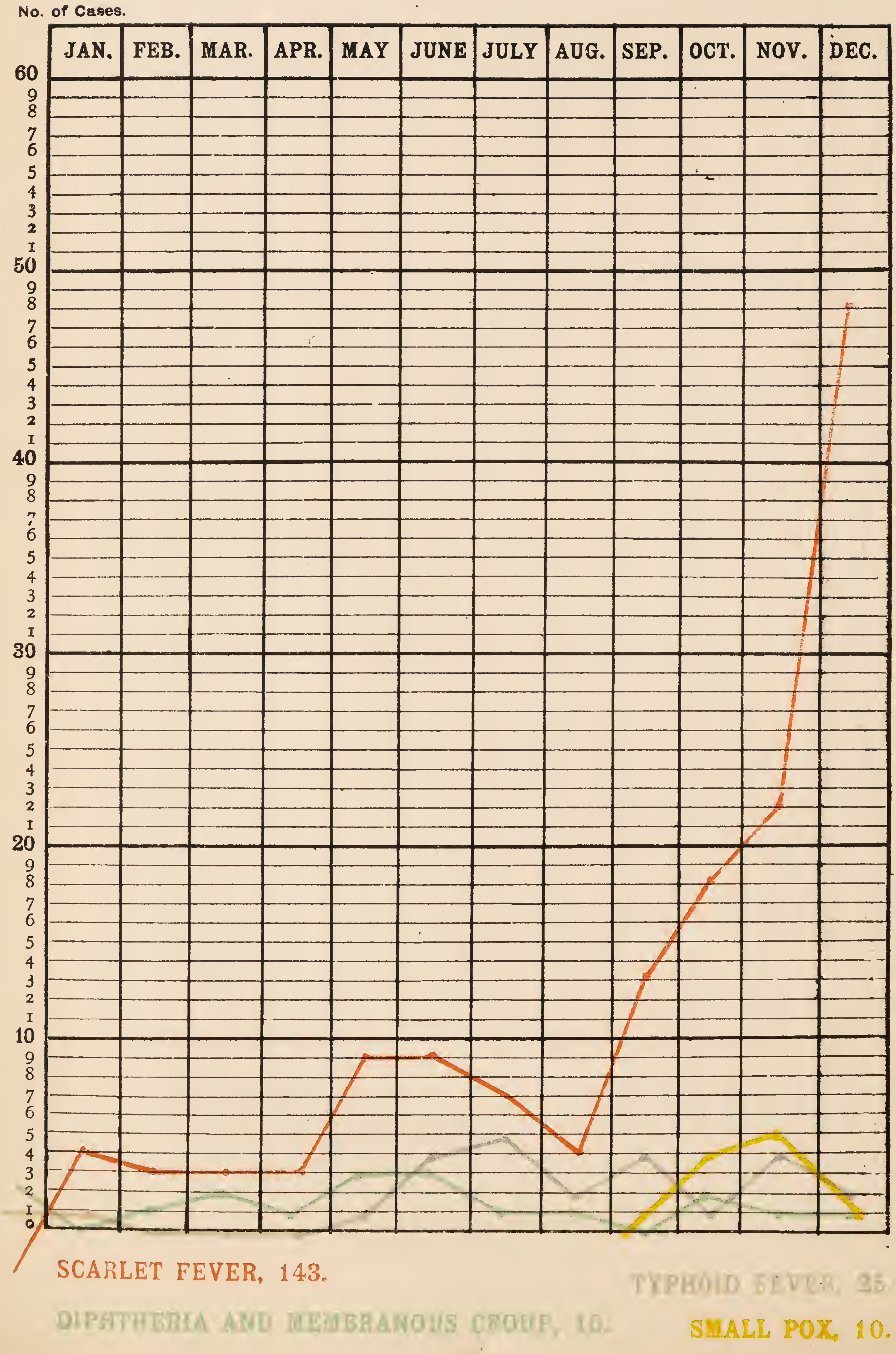
It is now used by the Port Sanitary Authority for their cases, and for cases from both Hartlepool and West Hartlepool.

It contains about 40 beds, and when it is remembered that the population of the two Hartlepools is between 80,000 and 90,000 its inadequacy is at once apparent, one bed to each 1,000 of population being the proportion generally provided for in Isolation Hospitals.

PLATE V.

CHART SHEWING NOTIFIABLE INFECTIOUS DISEASES REPORTED EACH MONTH.

1900.



Ventilation is not provided for except by opening the windows, and in certain winds a large quantity of sand is constantly blown into the wards. The wards are heated by stoves in the centre, which do not aid ventilation in the same efficient way that open fire-places do.

There is not sufficient accommodation in the administrative buildings, nor is there sufficient for nurses in the Hospital itself.

The separation of the convalescent patients suffering from different diseases is a matter which also wants more attention, and provision ought to be made for isolating those cases of a doubtful nature which are so often met with in practice.

Sanitary conveniences are very faulty, the excreta being received in pits in the ground. With the present arrangements, I consider patients run a serious risk of becoming infected with another disease besides the one they were sent up for.

Hospitals for Infectious Diseases should be made as attractive as possible, in order to overcome the prejudice evidently entertained against them.

I feel strongly that we would be in a much better position to grapple with an epidemic at its onset—the only effective time—if the Corporation had an Isolation Hospital of its own.

I think too there would not be the same difficulty in getting patients to go to it.

The want of an Infectious Disease Hospital belonging to the Corporation has been severely felt this year, owing to the large number of Scarlet Fever cases, only a very small proportion of patients suffering from this disease having been removed.

It must be remembered that a patient is not removed to an Isolation Hospital for his own benefit so much as for the benefit of the community, and therefore, I think, they cannot complain of having to bear the cost.

SMALL-POX.

Ten cases of Small-pox have been reported during the year.

The history of these cases is very instructive, as shewing how easily this disease is spread, and proving, if proof were needed, how Small-pox is modified by Vaccination.

On September 28th, I received notice from the Clerk to the Port Sanitary Authority that three cases of Small-pox had broken out on board a ship, laden with a cargo of wood for the pulp works ; she had been partly unloaded.

On receipt of this intimation I instructed the Sanitary Inspector to go down and get the names and addresses of all the men who had been working on board ; this was done and all the men were kept under observation for a fortnight.

No case occurred among them in my district.

On October 1st, a case was reported from Bramley Street. This man had passed along the quay, close to the ship, and had no doubt got infected.

The time between the cases breaking out on board the ship and the time of this man shewing symptoms being so short, I conclude the infection must have been in the cargo.

On October 2nd, the second case was reported in Elwick Road, the patient being a coal hawker and a friend of the first patient.

The third case was reported on the 12th, from Caroline Street, close to the end of Elwick Road, where No. 2 case occurred. Although I could trace no direct connection between these two cases, it is most probable there had been, because No. 2 case was taking medicine from a chemist for what he thought was Influenza, and was in the chemist's shop the day I saw him, when the spots were well out

Case No. 4 was reported on the 17th, from York Road, not far from Caroline Street, the patient being a message lad, and having called to deliver goods at the infected house in Caroline Street.

No further case was reported till November 1st, when case No. 5 was reported from Warden Street. This one I found was a friend of a young man who was supposed to be suffering from Chicken-pox at Hartlepool, and who had been visiting his friend at Hartlepool.

Case No. 6 was reported from Hopps Street on the 7th. This was a young girl of 15. I could trace no connection whatever with former cases, she not having been out of the house for a fortnight, except to a small news-agent's shop, where there had been no sickness.

Case No. 7, reported on November 13th, was brother of case No. 5 living in the same house.

Case No. 8, a woman living in Robinson Street, reported on the 18th. She had only been in the town for eight days, having left Glasgow on the 10th, where she said some cases had occurred.

The Medical Officer of Glasgow was at once notified of the case here.

Case No. 9, reported on the 27th, was the mother of case No. 6.

The time between these two cases is long for the incubation period, but the husband of this woman had been ill before either his daughter or wife, with what he thought was influenza, and I think it most probable that he may have had a very mild attack of Small-pox, especially as no connection could be traced between these cases and the others, except that he worked at the same place as cases Nos. 5 and 7.

Case No. 10, reported on December 10th, had just left his ship at Stockton, after a voyage from Bilbao, where I am informed Small-pox was prevalent. The M.O.H. of Stockton and the owners of the ship were notified of the case.

All these patients had been vaccinated in childhood, consequently they were all of a mild type, but none of them had been re-vaccinated. There was no death.

On a case being reported the house was immediately visited and vaccination offered to all the inmates. In only two instances was vaccination refused, *viz.* : the brother of case No. 5 and the mother of case No. 6. None of the inmates of any of the houses took the disease with the exception of the two who refused re-vaccination, cases No. 7 and 9.

All the cases were removed to the Port Sanitary Hospital within an hour or two of being reported, with the exception of case No. 9, and she having been recently confined it was not thought safe to move her, but on talking the matter over with her medical attendant, we concluded she would be much better looked after in the Hospital, as her husband was not at that time well, and there was no one else in the house but three young children.

She took no harm and made a rapid recovery.

Very stringent precautions were taken to prevent the spread of the disease.

The names and addresses of all persons who had entered an infected house were taken and they were all visited daily for a fortnight, so that any one shewing symptoms of illness could have been at once isolated. The house, bedding and clothing were all thoroughly disinfected, and in one case, as the patient had been wandering all over the house, all the wall papers were stripped off, the walls lime-washed and new paper put on. It was also thought advisable to keep the husband of case No. 9 from work for a fortnight, the cost in both cases being borne by the Corporation.

No precautions, however stringent, will be of much avail without our only real safeguards—vaccination and re-vaccination.

The Local Government Board recommends "that all persons who have been vaccinated in infancy should, as they approach adult life, undergo re-vaccination."

The best age, according to the Board, is 15 to 18, or if there is danger of Small-pox, 12.

In Germany, re-vaccination is not only recommended, but is obligatory on every child during its twelfth year, and with excellent results.

Some quite recent statistics have added largely to the proofs of the protective efficacy of vaccination against Small-pox—protective against attacks of the disease, and protective against death, disfigurement and crippling (loss of sight), &c., among vaccinated persons who may be attacked.

Ordinary statistics give only the comparative results among those actually attacked by Small-pox, but not the extent of protection from attack, and invariably the vaccinated shew a smaller mortality than the un-vaccinated.

But in the case of Chemnitz and Sheffield much fuller details were learned, and with results highly favourable to vaccination.

During the epidemic at Chemnitz, in 1870-71, Flinzer collected full statistics. The population of the town was 64,255.

Of these there were

Vaccinated	...	53,891	or	83.87	per cent.
Un-vaccinated	...	5,712	or	8.89	,,
Who had had Small-pox		4,652	or	7.29	,,

There were attacked by Small-pox during the epidemic—

Of the 53,891 Vaccinated	953	or	1.76	per cent.
,, 5,712 Un-vaccinated	2,643	or	42.27	,,

Of the 953 Vaccinated attacked, only 7·3 per *thousand* died; while of the 2,643 Un-vaccinated attacked 91·6 per *thousand* died. (Report of Royal Commission).

The results in Sheffield (Report of Dr. Barry, Inspector of the Local Government Board) during the epidemic of 1887-88, demonstrated equally the great value of Vaccination, and harmonise with the facts at Chemnitz wonderfully.

The particulars as to Vaccination there were ascertained for 274,112 persons (or 86 per cent.) out of a population of 316,288.

Of 268,397 Vaccinated persons (amounting to 97·9 per cent. of those enumerated at the special census), 4,151 (or 15·5 per *thousand*) took Small-pox; while of 5,715 Un-vaccinated persons 552 (or 97 per *thousand*) took Small-pox.

As to the mortality (ratio of deaths to population) of the Vaccinated persons 200 died, or 7 per *ten thousand*; but of the Un-vaccinated persons 274 died, or 480 per *ten thousand.*

As to the fatality (ratio of death to attacks), among the Vaccinated it was 4·7 *per cent.*, but among the Un-vaccinated it was 31·1 *per cent.*

Un-vaccinated Small-pox is nearly as fatal now as ever.

Can anything be more eloquent than these facts?

One of the very notable results of Vaccination is that the very young, who are everywhere the most susceptible to Small-pox when Un-vaccinated, are the least susceptible where Vaccination is practised, and the degree of susceptibility increases with age, *i.e.*, as the length of time since Vaccination increases.

SCARLET FEVER.

143 cases of Scarlet Fever have been notified with only 3 deaths; against 41 cases with 1 death in 1899, 96 cases with 2 deaths in 1898, and 87 cases with 4 deaths in 1897.

Most of the cases occurred in September, October, November and December (see Plate V.)

All the cases have been of a mild type, the 3 deaths being due to complications.

This mildness of type, I think, accounts for the large number of cases, as many were not reported until peeling was well advanced, no medical man having been called in.

The Registrar General in his 49th Annual Report (1886), says :—

"Now it is sometimes said that the separation from its family of a child who "is attacked by Scarlet Fever is scarcely worth the trouble and "expense it involves, seeing that the rest of the children, though they "may escape on that special occasion, are almost certain to contract "this very common disease at some future time, and may therefore as "well, if not preferably, have it at once.

"The results, however, to which our statistical enquiry has led it, are "completely subversive to such a position. They shew, independently "of the plain fact that a very large proportion of persons go through "life without ever contracting the disease, that the longer an attack is "deferred, the less likely it is to occur at all, and not only so, but "that, even supposing it to occur eventually, the less likely is it to end "fatally."

This bears out the statement I made in last year's report, and is a fact that should constantly be kept before the notice of the public, because many children get the disease through this belief.

TYPHOID FEVER.

25 cases were notified during the year with 5 deaths; against 31 cases with 7 deaths in 1899, 24 cases with 4 deaths in 1898, and 39 cases with 7 deaths in 1897.

Enteric or Typhoid Fever is essentially a communicable disease, though the mode of communication differs greatly from that of some other infectious diseases.

It is now a well recognised fact that the virus or poison is given off in the excreta and that it finds its way into the body by means of the mouth, especially in milk and water which have become contaminated.

Air does not appear to carry the typhoid poison under ordinary circumstances, but when bedding, clothing, &c., have become contaminated by the typhoidal discharges and these have been allowed to dry and pulverise, there is no reason to doubt that the fever poison may be disseminated in this way.

It is also easy to see how anyone nursing a case, and not being particular as regards cleanliness, may contaminate food in the process of handling it.

When it is remembered how much typhoid fever differs in severity of attack, and how many cases are never recognised owing to their mildness, it seems a marvel to me that this disease is not more common than it is, more especially when we see how many midden privies there are in this town, and how near many of them are to the pantries in which food is kept. Many I have seen having nothing but a wall the thickness of one brick separating them.

The abominable filthy condition of many of these midden-privies is a constant source of danger to us. At their very best, they cannot be considered sanitary, but when they are so foul as most of them are, I consider we are laying ourselves open to the risk of a serious epidemic at any time.

True, they have existed all these years without an outbreak, but that is no reason why we should allow such "blots on English Sanitary administration" [the late Sir R. Thorne-Thorne] to exist.

We must remember too, that the population is becoming denser each year, and so the danger is increasing.

I can only repeat what was said in the Annual Report last year, that the only radical method of getting rid of them is to adopt some such scheme as is done in Sunderland and elsewhere, to do away with all of them and supply water closets and dry pans, the Corporation to bear half the cost.

The following table is a summary of the 25 cases, shewing, when possible, the source of infection :

Case		Age.	SOURCE.
1	B.R.	11	Moorgate Orphanage, Newcastle.
2	O.W.	8	Privy.
3	N.Y.	7	All occurred in the same house. Pump in back yard. Water contaminated. Well closed and Company's water supplied Privy.
4	A.Y.	22	
5	W.Y.	14	
8	J.Y.	46	
10	E.Y.	13	
6	G.G.	27	Ashpit in yard very foul.
7	M.S.	14	Privy and Ashpit foul. House dirty.
9	J.B.	46	Privy. House dirty.
11	C.S.	2	None traced.
12	M.B.	20	Privy.
13	H.B.	22	None traced
14	E.T.	40	None traced.
15	E.E.	40	Privy. House dirty. Defective drain. Pump water
16	J.F.	65	In same house. Privy. Defective drainage
17	J.J.	36	
18	R.A.	15	None traced.
19	W.U.	22	Privy. House dirty.
20	E.H.	21	Foul smell at place of work.
21	J.S.	19	None traced.
22	C.J.	6	Privy.
23	A.T.	54	Privy.
24	W.K.	6	Stagnant water in front of house.
25	F.F.	14	None traced.

Although it cannot be stated in these cases that a privy is the direct source of infection, it is a significant fact that 15, or 60 per cent., out of our 25 cases occurred in houses where midden-privies are.

INFLUENZA.

Twenty-two deaths are registered as having been caused by Influenza, but this does not give us any idea of the number, because so many deaths occur after it from diseases of the respiratory organs, and are so certified.

When Influenza re-appeared in England, towards the end of 1889, there was a tendency among the public, and even the medical profession, to regard it as some entirely new disease, so unfamiliar had we become with this scourge, yet, strangely, there is perhaps no disease which has so often swept over the globe in pandemic waves.

In a paper read before the Society of Medical Officers of Health in February, 1890, Dr. Clemow referred to various early epidemics, dating back from the year 1481 to the time of Hippocrates, some of which would certainly seem to have been Influenza.

The chief epidemics in this country during the present century occurred in the years 1803, 1833, 1837-38 and 1847-48.

Since 1889 we have scarcely been free from it, and it has, both directly and indirectly, caused an enormous number of deaths.

Neither cold nor heat, nor any known meteorological condition, has been shewn to have any effect in checking or promoting the spread of the disease. Severe outbreaks occur in the hottest and coldest seasons, in good, bad and changeable weather, apparently indifferently.

Air may certainly be said to carry the infection. Nothing, however, is known as to infection conveyed by food and water.

The breath is in all probability infectious from the commencement.

The ordinary preventative measures appear to be of no avail against Influenza.

EPIDEMIC DIARRHŒA.

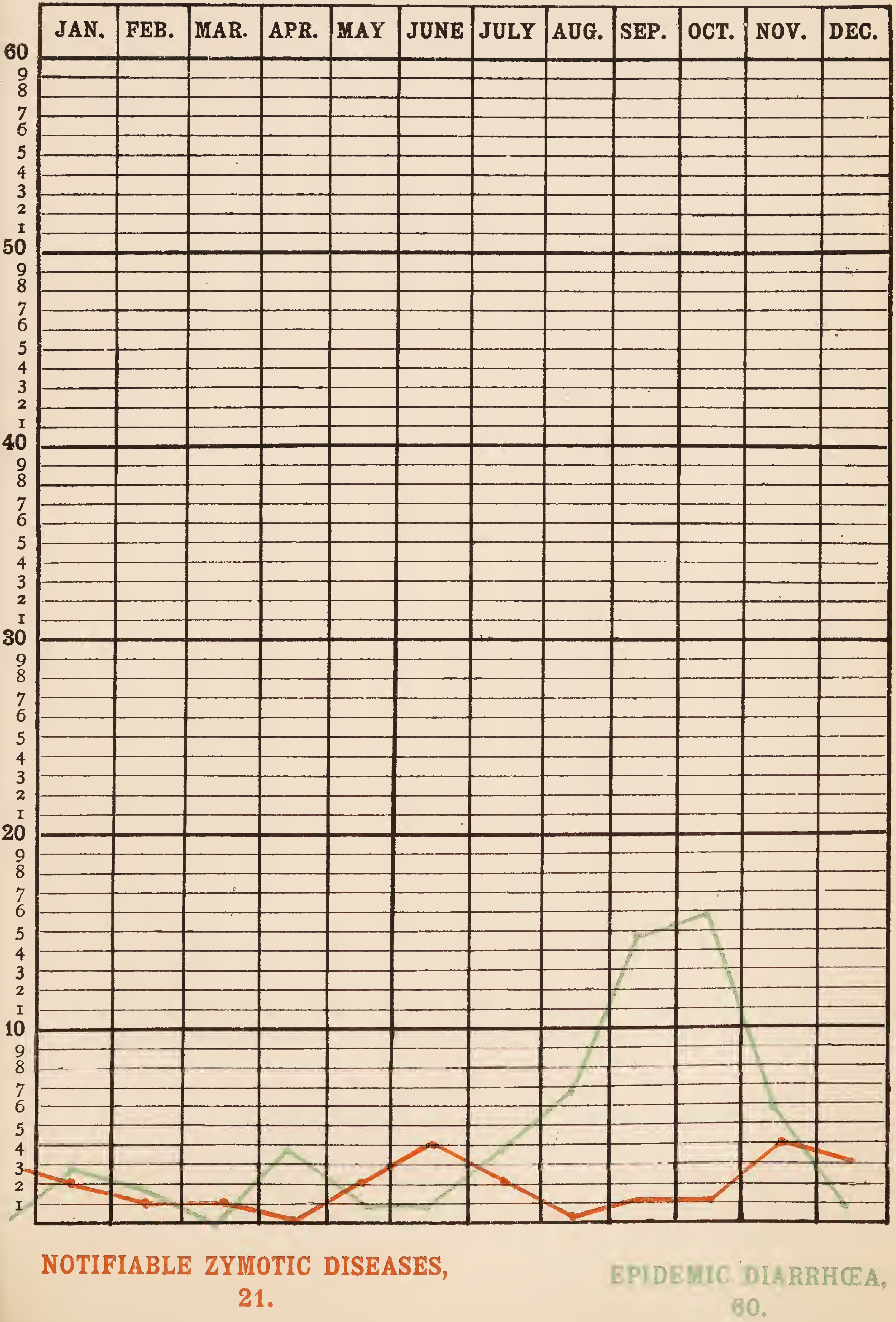
Epidemic Diarrhœa has not been nearly so prevalent this year as last. It caused 60 deaths, against 111 last year.

In July, the following letter was sent to each medical practitioner in the district, with a view of getting a true record of the number of deaths from this disease :

PLATE VI.

CHART SHEWING DEATHS EACH MONTH FROM DIARRHŒA CONTRASTED WITH DEATHS FROM NOTIFIABLE INFECTIOUS DISEASES.

1900.



"MEMORANDUM ON CERTIFICATION OF DIARRHŒA DEATHS.

"Much confusion having arisen from the numerous synonyms, unauthorised by the Royal College of Physicians, which for some years past have been increasingly used in the certification of deaths from 'diarrhœa,' the 'epidemic diarrhoea' of the Nomenclature of Diseases, the Incorporated Society of Medical Officers of Health is desirous of calling the attention of all medical practitioners to a decision which has been arrived at by that College authorising the use of the term 'Epidemic Enteritis' (or if preferred by the practitioner 'Zymotic Enteritis') as a synonym for epidemic diarrhœa, and urging the entire disuse, as synonyms of epidemic diarrhœa in medical certificates of death, of such terms as 'gastro-enteritis,' 'muco-enteritis,' 'gastric-catarrh,' &c.

The confusion arising from the present practice in certification so seriously vitiates the accuracy of all statistics with regard to this disease, which is recognised by the Royal College of Physicians to be a general disease of specific character, in the same sense as enteric and other fevers, that this Society desires to strongly urge medical men to strictly adhere to these authorised decisions which the College has now published.

In future the only authorised names to be used in certifying deaths from this disease, are:—Epidemic Enteritis, Zymotic Enteritis, or Epidemic Diarrhœa, and all other synonyms are to be entirely discarded. The late Dr. Ballard shewed that this *specific disease* occurs in persons of all ages, and that it may happen in other than epidemic seasons, under which circumstances the Society would suggest the advisability of the employment of the alternative term Zymotic Enteritis."

This circular letter has had a ready response, although some deaths are still certified as due to "gastro-enteritis," &c. These for the most part have been classified under "Epidemic Diarrhœa."

The following leaflet was distributed freely in many parts of the town warning parents of the dangers of Diarrhœa, and giving instructions as to the care of ashpits.

"PRECAUTIONS AGAINST DIARRHŒA.

Diarrhœa was very prevalent and caused a large number of deaths, especially amongst children, during the hot weather last year.

It can to a great extent be prevented by taking care. You are therefore requested to take particular notice of the following :—

Babies should, if possible, be fed at the breast, but failing this, they should have nothing but milk, or milk and water, till seven months old, and very little else till two years old.

Cleanliness is a most important factor in prevention; the person and clothing should be kept clean; but of even greater importance is the house and back premises, especially where food is kept.

Cleanliness of the feeding bottles is absolutely necessary for the health of infants. It is IMPOSSIBLE to keep a long rubber tube in a feeding bottle perfectly clean.

All milk should be boiled as soon as taken into a house and put into a vessel (previously scalded out) and covered with a clean cloth.

Food should be kept in a clean, dry, and well ventilated place.

Meat or fish slightly tainted, and fruit even beginning to decay, should never be eaten.

The windows throughout the house should be open day and night, especially in the bedrooms. Early in the day the bed clothes should be thrown back, and the slops taken away.

Fire-places should not be stopped up ; they act as good ventilators.

Offensive smells about the premises should be reported to the Medical Officer of Health, or to the Sanitary Inspector, as bad smells will cause diarrhœa.

The yard drain should be kept clean and well flushed.

Particular attention should be paid to the ashpits ; they should be kept perfectly dry, no slops, tea leaves, cabbage, potato peelings, fish, &c., should be put in them : these can all be burned in the kitchen fire.

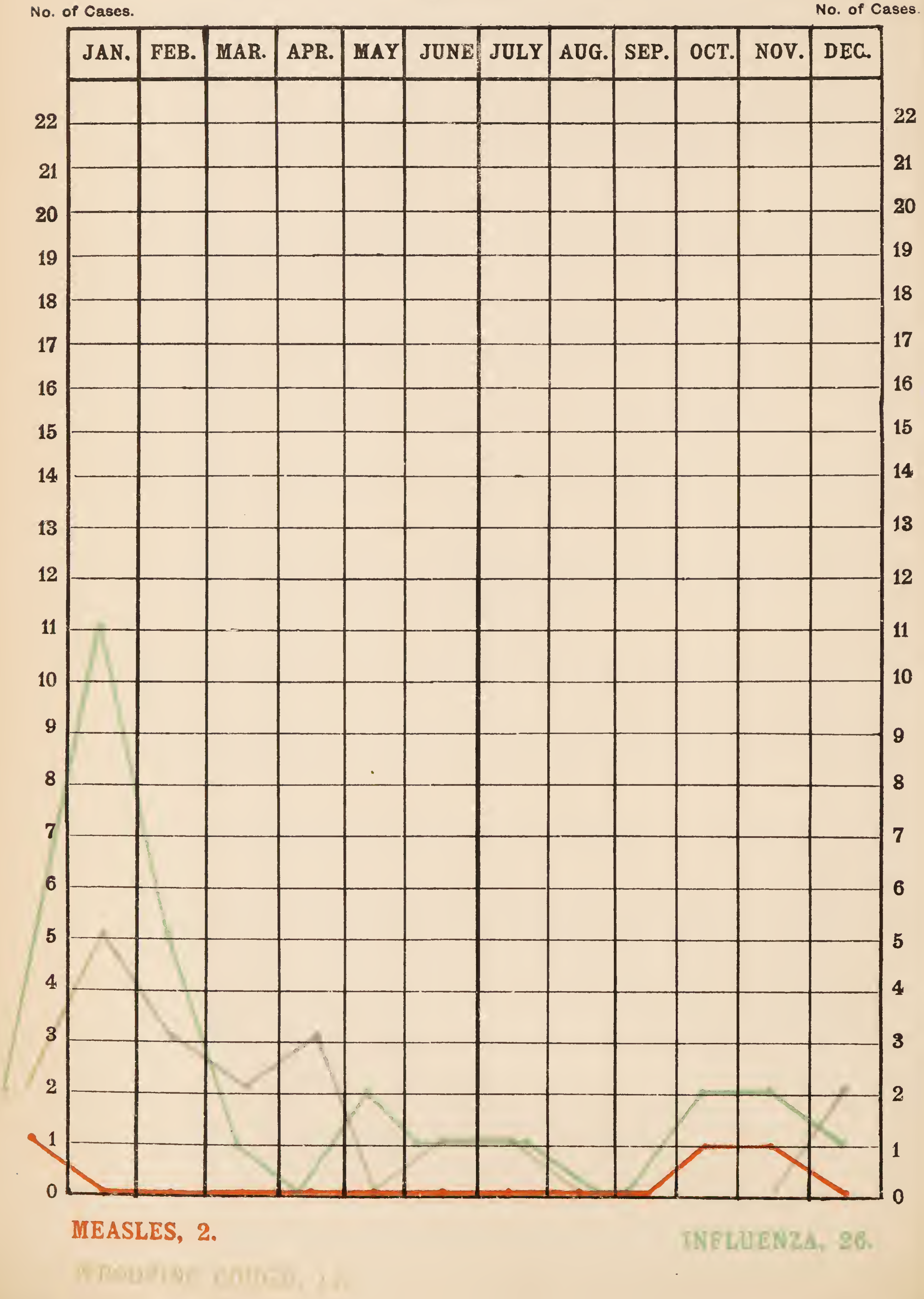
As soon as a child starts with Diarrhœa, a doctor should be sent for, the child should be kept warm, and medical instructions as to diet should be strictly adhered to.

It cannot be too strongly insisted upon that the midden privies are a fruitful source of diarrhœa."

PLATE VII.

CHART SHEWING CAUSES OF DEATHS EACH MONTH DUE TO NON-NOTIFIABLE INFECTIOUS DISEASES.

1900.



DIPHTHERIA AND MEMBRANOUS CROUP.

16 cases of Diphtheria have been notified with 7 deaths, against 15 cases with 7 deaths in 1899, and 11 cases with 6 deaths in 1898.

A stock of antitoxin is now kept, so that any medical practitioner requiring it can have it immediately.

There seems no doubt whatever as to the efficacy of this treatment, but to get the best results, it must be used early in the case. Therefore, I think the Committee have done wisely in allowing me to keep some on hand.

MEASLES.

This being one of the non-notifiable infectious diseases, we have no means of estimating the number of cases occurring in the year.

We have had a few isolated cases, but nothing in the nature of an epidemic.

Only 3 deaths were registered from Measles during the year, against 35 in 1899.

WHOOPING COUGH.

From Whooping Cough 16 deaths occurred during the year, against 25 in 1899.

The indifference with which parents regard this disease is the cause of much suffering and many deaths during each year.

Isolation is never attempted owing to the fatal belief that all children must have it sooner or later.

PHTHISIS.

To my mind this is the most important infectious disease we have to consider, because practically no precautions are taken by the public to stop its spread, and also because it does not come under the "Notification Act," and Sanitary Authorities have no power.

85 deaths have occurred from Phthisis (Consumption) during the year, against 87 in 1899.

But in addition to this, 62 deaths have occurred from other forms of Tuberculous Diseases, making a total of 147 deaths from Tuberculosis in its various forms.

Much has been done, is being done, and remains to be done, to stamp out this fatal disease.

The first step is to convince the public that it is an *infectious and not a hereditary disease.*

Tuberculosis in one form or another causes one death in every eight in this country. Of all deaths in the United Kingdom between the ages of 25 and 35, nearly one half are due to Consumption.

Its predisposing cause is a low state of health, such as may be inherited, or may be induced by over-crowding, the stuffy air of ill-ventilated rooms, dirty, dark, and damp dwellings, bad or insufficient food, intemperance, and infectious fevers or other illnesses.

Consumption is, however, contracted by taking into the system the germ or the microbe of the disease, either in the dust of the air, or in food and drink.

These germs are only derived from persons or animals already suffering from Consumption, or some other form of Tuberculosis.

They are found in vast numbers in the phlegm, spit or expectoration of a consumptive person.

In a moist state this expectoration does not infect the air, but if allowed to dry and become dust it is exceedingly dangerous, and is then the chief means by which the disease is spread from person to person.

There is practically no risk of contracting the disease from the breath of a consumptive person. There is no objection to a consumptive invalid being closely attended on by healthy persons, who may also share the same bed room though not the same bed. (For rules for Consumptive patients and those looking after them, see Appendix A).

This subject of Phthisis is now receiving much attention throughout the country, and, with a view to preventing its ravages, a National Association for the Cure and Prevention of Consumption has been formed.

The objects of the Society are :—

1.—To educate the public as to the means of preventing the spread of Consumption from those already suffering from the disease.

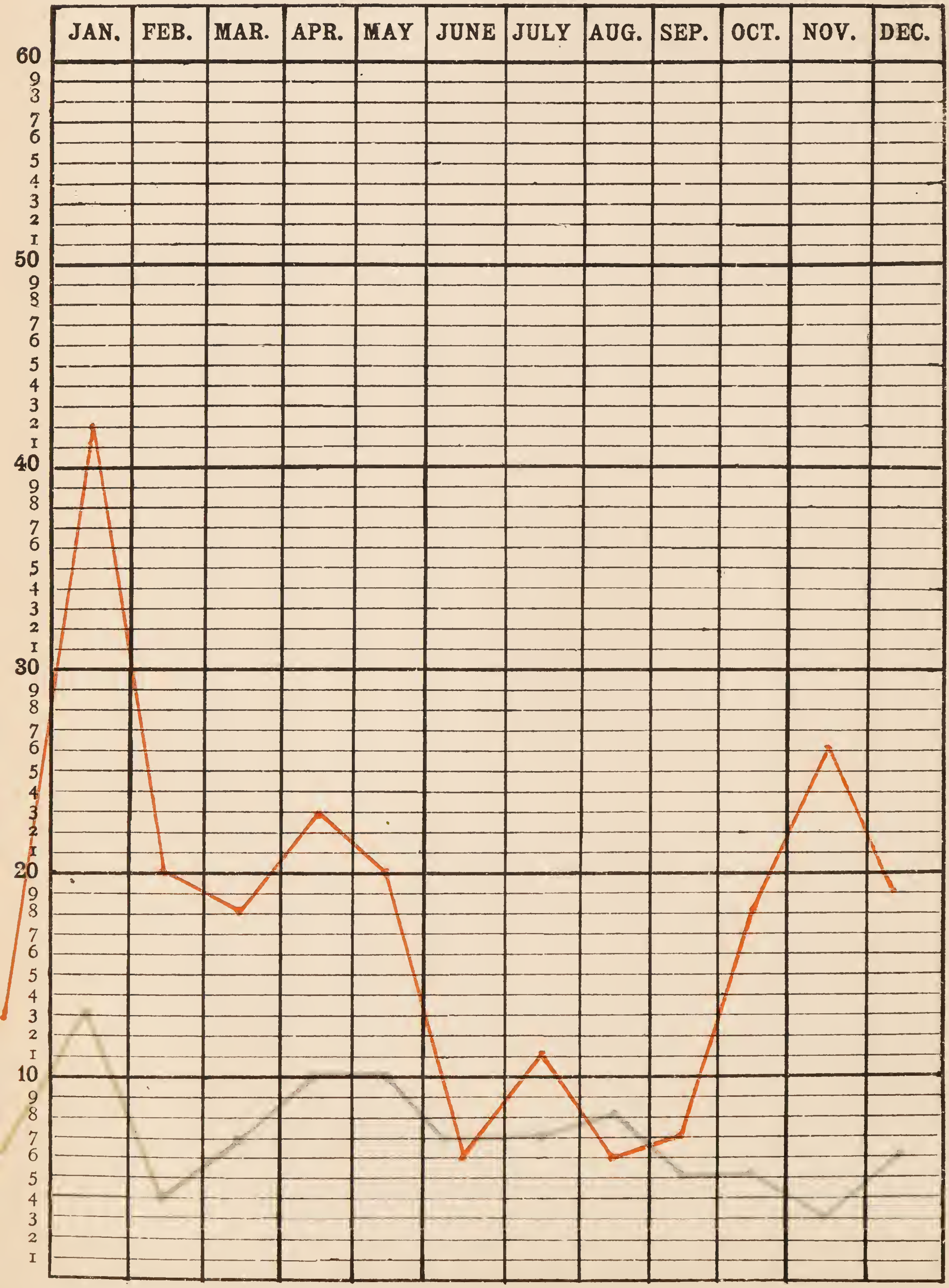
2.—To extinguish Tuberculosis in cattle.

3.—To promote the erection of Sanatoria for the open-air treatment of tuberculous diseases.

PLATE VIII.

CHART SHEWING DEATHS EACH MONTH FROM ALL RESPIRATORY DISEASES CONTRASTED WITH DEATHS FROM PHTHISIS.

1900.



RESPIRATORY DISEASES,
216.

PHTHISIS.
85.

Such a Sanatorium has been opened at Horn Hall, Stanhope, and is already doing excellent work.

I take the following from the First Annual Report of the Society for Prevention and Cure of Consumption in the County of Durham, and would commend it to your notice and that of the workmen in the town as well worthy of consideration :—

> "Patients belonging to bodies of regular subscribing workmen are admitted free. Bodies of workmen who do not already subscribe are cordially invited to do so at the rate of threepence per quarter per man, and so provide themselves with this rational mode of treatment, which alone gives a chance of cure.
>
> As many poor patients also are taken free as the ordinary annual subscriptions will allow (those at present amount to about £200 a year only), and the Committee urgently appeals for more anuual subscriptions from private individuals, Sanitary Authorities and Boards of Guardians, to allow the admission of a larger number of suitable applicants in needy circumstances.
>
> Again, other non-subscribing patients pay, according to their ability, either the whole (two guineas a week) or a part of the charge for their maintenance, the deficiency being made up from the ordinary subscriptions. The circumstances of each patient who cannot pay the full amount of his maintenance are enquired into, so as to avoid abuse of charity. Only such patients who are above the age of 15 years and have a reasonable chance of cure are admitted.
>
> Statistics of Sanatoria show that about *one-third of the early cases are cured*, and another third are so much improved as to be able to resume work, but the chances of cure of advanced cases with septic symptoms and cavities are much less, and the length of time required for the trial so long, that the Committee cannot undertake such cases at present with only 12 beds."

The treatment at the Sanatorium consists of :—

1.—A constant supply of pure, fresh air day and night.

2.—An abundance of nourishing and digestible food.

3.—Carefully regulated exercise and rest.

4.—The removal, as far as possible, of all causes of worry and anxiety.

5.—The constant regulation of every detail of the patient's life by a skilled physician, and

6.—The collection and destruction of all his own sputum by each patient so as to prevent entirely the risk of re-infecting himself and of infection to others.

Dr. Eustace Hill, Medical Officer of Health for the County of Durham, delivered an address in December, 1899, at Newcastle. After making some remarks about the causes, prevention, &c., of Consumption, he continued :—

> " Quite recently, especially in Germany, the advantage of the treatment of consumptive patients in specially constructed Sanatoria has come prominently under notice, and most satisfactory results have been obtained, a considerable proportion of the patients being absolutely cured, while the great majority so treated have been much improved.
>
> This method of treatment is known as the sanatorium or open air treatment of consumption, the chief features of which are unlimited fresh air, day and night, sunshine, abundance of proper food and regular exercise.
>
> The fact that this form of treatment has been so generally adopted by the sober-minded Germans is strong evidence of its merits, and the figures that have been published by the leading sanatoria are conclusive evidence of its value.
>
> In the houses of the poor, and of many of the working classes, where large families occupy two or three rooms, the open-air treatment of consumption cannot be properly carried out, and it is for such cases that sanatoria will be of the greatest value, both for the prevention and cure of the disease.
>
> As to whether a patient will be permanently cured by the open air treatment will depend on the stage of the disease.
>
> Still, the statistics which have been published are most encouraging.
>
> Moreover, these sanatoria are not only useful in curing or arresting the disease in patients treated therein, but they are also of great value in preventing the spread of the disease to healthy persons, and in educating the public as to the rational treatment of consumption.
>
> As to the suitability of the climate of this country for the open-air treatment there can be no doubt.

Site, position, altitude, the character of the sub-soil, water supply and drainage, are all matters which have to be considered in constructing sanatoria for the open-air treatment of consumption, but I do not hesitate to say that in every county in this country the necessary requirements are to be found, and the bracing air in the hilly districts of Northumberland and Durham, would undoubtedly be beneficial in the treatment of consumptive patients.

Excellent results have already been obtained in this country where the open-air treatment has been in operation."

DAIRIES, COWSHEDS AND MILKSHOPS.

These have all been visited at intervals during the year.

In some of the cowsheds the window space is still insufficient, and therefore, light, which is so necessary for the animals' health, is not admitted sufficiently.

Some of the milkshops are, I consider, not suitable for the purpose, the milk in many instances being kept on the counter of a small and often dirty shop, alongside vegetables, &c.

HOUSE REFUSE—REMOVAL AND DISPOSAL.

There has been considerable difficulty, and many complaints during the year, the middens not having been emptied regularly; especially towards the end of the year when the contract time was up, the Corporation not being desirous of entering into another contract with the knowledge that the Destructor is very nearly completed.

The Destructor is one of the Horsfall Furnace Syndicate's, with their patent furnaces, and they have erected the works under the superintendence of Mr. J. W. Brown, the Borough Engineer.

It consists of six cells, each capable of burning 12½ tons of night-soil refuse in 24 hours.

There are two tubular boilers, and the heat evolved is guaranteed to evaporate 1lb. of water for every lb. of refuse burned.

The shed, in which the furnaces are, and the inclined roadway, are so arranged that the furnaces and boilers may be duplicated as and when required by the growth of the town.

The large chimney, which is 170 ft. in height from the ground level, serves both destructor and electricity works.

It is hoped that soon the whole of the night soil refuse will be taken there.

ABATTOIR.

The Public Abattoir situated in the South-East Ward near the top of Burbank Street, covers an area of about an acre.

It was built about five years ago, and since that date no private slaughter-houses have been licensed in the Borough.

All the slaughtering is done there, except a little at one private slaughter-house in Seaton.

There is accommodation for about 60 beasts and 130 pigs, whilst about 200 sheep can be housed, but in the Summer, when they can stay outside, about 400.

During the year there were killed :—

	Total	Beasts	Lambs and Sheep	Calves	Pigs
This Year	25,333	4,818	1,2559	664	7,272
Last Year	25,040	4,623	13,017	579	6,821
Increase	293	195	—	105	451
Decrease	—	—	458	—	—

A systematic and thorough inspection of meat has been carried out during the year.

Six whole beasts and the fore-quarter of one were seriously affected with Tuberculosis and condemned as unfit for human food.

Thirty-one beasts were slightly affected with Tuberculosis, the serous membranes were stripped off, in some cases some of the organs were destroyed, and the rest of the carcases passed.

One pig was destroyed as unfit for human food.

When I see the private slaughter houses in some other towns, as I have had several opportunities of doing during the year, I cannot help but congratulate the Corporation on having a public one, the work in which is carried on so well, and with so little friction, and with an amount of safety to the public that can be obtained in no other way.

DISINFECTING APPARATUS.

The apparatus in use in the Borough is the Washington Lyon's Steam Disinfector, with Alliott and Patton's improvements.

The work in connection with disinfection has been exceptionally heavy this year, owing to the large number of infectious cases.

It is work of an exceptional trying nature, and I take this opportunity of thanking Mr. Sayer, on whom all this work has fallen, for the efficient and uncomplaining way in which he has carried it out, not only during the day, but many times late into the night.

In many cases of infectious diseases, it is not sufficient to disinfect the room in which the patient has been, but the whole house ought to be done. Great difficulty is found in doing this thoroughly, because no place is provided for the inmates of the house to be sent to whilst disinfection is going on.

I would suggest that such a place be provided, in order that this means of prevention may be carried out as thoroughly as it ought to be, in order to prevent infection spreading.

FRUIT IMPORTED.

A large quantity of fruit was imported during the summer months, and unfortunately a large amount had to be condemned as unfit for human food, *viz:* 586 baskets of cherries.

FOOD AND DRUGS.

68 samples have been taken during the year, 5 samples of which were certified to be of doubtful quality. The sellers were cautioned. 1 sample contained 20% added water, and one 8%. The sellers were fined 10/- and 40/- costs.

BAKEHOUSES, LAUNDRIES AND FACTORIES.

These have all been visited at intervals during the year, and found to be generally satisfactory.

One factory was found to be without sanitary conveniences, but on notice being served, the defect was at once remedied.

OPEN SPACES.

The provision of open spaces, or so called "lungs" of our large towns, within easy reach of the inhabitants, especially the children and old people, has not in the past, throughout the kingdom, received so much attention as the importance of them deserved.

"The Open Spaces Act, 1887," gives power to all Sanitary Authorities to acquire land for this purpose, and, especially in rapid growing towns like our own, should it be constantly borne in mind.

We now have the Park at the west end of the town, and the Burn Valley Gardens at the south, and in Victoria Road there is a piece of land recently purchased by the Corporation, which is to be temporarily laid open to the public.

In the north end of the town which is rapidly being built up, there will soon be none, and I think it would be a wise and beneficial act on the part of the Corporation to buy the Victoria Field and Clarence Cricket Ground and keep them, as at present, open spaces for two of the most health giving sports. This would permanently afford amusement and recreation to the large crowds which may constantly be seen on Saturday afternoons at the football and cricket matches.

It might also be beneficial to the children who have to play about the streets, often in imminent danger of being run over, if the Corporation would approach the School Board to leave the playgrounds open in the summer evenings, and on Saturdays and during holiday times.

The Corporation has recently purchased the land forming the sea banks, extending from the south end of Mainsforth Terrace to Seaton, and propose erecting a promenade there. This will undoubtedly be a great boon to large masses of the people, but the pleasure to be obtained from an otherwise pleasant walk will be considerably marred by the volumes of smoke coming from the adjoining works, especially in a west wind, unless some steps can be taken to prevent this.

ELECTRIC LIGHTING.

The Electric Lighting Committee is to be congratulated on having this light now installed.

From a health point of view there can be no comparison between this and ordinary gas light, or even incandescent gas light.

The electric light possesses the following advantages over coal gas: there is no consumption of oxygen and no products of combustion to pollute the air of rooms, the heat produced is very slight, and there is no dirt.

The light is not yellow but white and it precisely resembles sunlight.

These advantages can be gained by no other means of illumination. As no heat is produced the artificial heating and ventilation of our rooms can be much more easily and efficiently carried out; especially is this true in our public halls, where large numbers of people congregate.

Many people make the grave mistake of heating their bedrooms by lighting an ordinary gas burner, and forget the fact that they are constantly vitiating the air by products of combustion, the chief of which is the poisonous carbonic acid gas.

BURIAL GROUNDS.

The Cemetery, situated at the North end of the town, has an area of between 35 and 36 acres. There appear to be approximately about 10,000 spaces still unused, including the two sites which were originally intended for chapels.

The Corporation has, however, bought land at the South end of the town, of about 60 acres in extent, to make a new Cemetery.

Before laying this out as a burial ground it would be well to remember how much more popular Cremation is becoming as a means of disposal of the dead, and how many advantages it possesses over burial.

MORTUARY.

A Mortuary is urgently required in the Borough. At present bodies are taken to an out-house in the market yard, with no accommodation for making post-mortem examinations.

Should we be visited by an epidemic of any infectious disease, there is no place where bodies could be removed to out of the small houses, many of which are totally unfit for the body of anyone dying from an infectious disease to remain, without exposing the other inmates to serious risks of infection.

A room should also be provided in which inquests could be held instead of, as at present, holding them in public houses.

HOUSING OF THE WORKING CLASSES.

During the year four houses have been closed as unfit for human habitation, and a large number have been put in sanitary repair.

About 300 privies have been converted into water closets.

This is a subject of vast importance, and I think no report of this kind would be complete at the present day without some reference to the subject in general, and to what is being done, or what one considers ought to be done, in each district in particular.

Conditions vary so much in different districts, that it seems to me, the Sanitary Authority of that district is the best judge as to the existing conditions and their remedies.

The great bulk of books written on the subject deal only with London, and say very little about the provinces.

London, as far as this question is concerned, is, and probably always will be, quite a distinct and separate problem, so that, as the conditions of our own district more especially concern us, the remarks I have to make deal only with this district.

That over-crowding does exist there can be no manner of doubt.

To what extent it is difficult to say, but after the census of 1901 we will have good opportunities of judging.

The "Housing of the Working Classes Act, 1890," is the Act under which all schemes are now carried out.

This important Act consolidates and amends the various Acts relating to artisans' and labourers' dwellings and the housing of the working classes.

Part 1 deals with unhealthy areas, improvement schemes, &c.

Part 2 deals with unhealthy dwelling houses, orders for closing and demolition, obstructive houses, &c.

Part 3 deals with working-class lodging houses; their provision by Local Authorities, &c.

Part 1 is, in my opinion, not applicable to this Borough, but is provided for older and more densely populated districts.

But the important fact must never be lost sight of that, although it may not be necessary to condemn whole areas at the present time, if no steps are taken to prevent matters drifting into the condition in which many large towns are at present, the time will undoubtedly come when this part of the Act will be the only part that can deal efficiently with the evil.

It is a most serious step for any Local Authority to have to take to turn whole families out of their houses by hundreds or even thousands at the same time. Accommodation has to be provided for them, and in only too many instances they drift to other areas, causing overcrowding, and so it may go on indefinitely.

Again, the persons, as a rule, for whom the new property is built, seldom come back to that property after it has been improved. Private enterprise, too, is building cottage property as quickly as it is possible to do so, and houses are provided in this way just as good, and perhaps at lower rents than could be done by the Local Authority.

Part 2 deals with unhealthy dwelling houses and small collections of houses, *e.g.*, courts and streets. This is a very important and useful part of the Act, and one that, worked in conjunction with part 3, is likely to prevent part 1 ever becoming necessary.

To deal efficiently with unhealthy dwellings means that house-to-house inspection must be carried on regularly and efficiently, and to do this means having an efficient staff—efficient both in number and knowledge.

One great disadvantage in the working of Part 1 is the enormous cost of any improvements, and when this is compared with the cost of an increased staff, the latter dwindles into insignificance, leaving out of question the increased and improved work that could be done.

Working under Part 2 of the Act may be, and is, much slower than the condemnation of areas, but it has its advantages, the main one of which is, that persons are not turned out of their houses wholesale, and therefore no hardship is laid on the people themselves, nor on the owners of property in any adjoining area.

The result of such work carried on systematically and well, must soon begin to shew itself in more healthy homes, and, following immediately on this, a lowered death rate as a whole and a lowered infant mortality.

It might also be advantageous to point out that householders practically have this matter in their own hands, as the following extract from the Act will shew :—

> "The Medical Officer of Health of any district must also, if any four or more householders in the district living in or near to a street, complain in writing to him that a dwelling house in or near the street is in a condition so dangerous or injurious to health as to be unfit for human habitation, forthwith inspect the dwelling house, and must transmit the complaint, together with his report on it, to the Local Authority."

Part 3 deals with working class lodging houses, and is dealt with in the various reports on lodging houses.

It appears to me that the subject of overcrowding must be considered from three standpoints :—

1.—From that of the general public.

2.—From that of the tenant.

3.—From that of the landlord.

Overcrowding again has to be considered under the two headings—(*a*) too many dwellings on a given area, and (*b*) too many occupants in a given dwelling.

Overcrowding of dwellings on a given area does exist, but not to a large extent in this Borough, and is to be dealt with under the "Housing of the Working Classes Act, 1890," under either part 1 or 2, as stated above; preferably, in my opinion, the latter.

Overcrowding in houses can be dealt with either by the same Act or under the "Public Health Act, 1875."

The main cause of overcrowding in this town, I consider, is lodgers living in private houses, many of which are too small for the families already in them.

That there is not sufficient accommodation provided for lodgers is proved by the numbers of prosecutions one notices reported in the daily papers for sleeping out, and I have information from the police that men frequently apply to them for information of a place to get lodgings, who are willing and able to pay.

They naturally object, under these circumstances, to go to the Workhouse, and, not being able to get decent lodgings, sleep out, and as a result are proceeded against.

Overcrowding from the standpoint of the general public :—It must not be forgotten that each householder has his duties towards his neighbours to perform, as well as his duties towards himself and his family, and by allowing his house to become overcrowded he neglects these duties, by exposing his neighbours to increased risks from infectious diseases, which are always more prevalent in dirty, badly kept houses.

That it is a tenant's duty, and ought to be his pride, to keep his house in as healthy a state as possible, should not require any comment. But in only too many instances the house receives no attention whatever, with the result that overcrowding is allowed, and following on this we have immorality, drunkenness, and ill-health.

Can it be expected that a man who sleeps in a room with small cubic space, badly ventilated or not ventilated at all, and with three or four more occupants, will rise in the morning refreshed and able for his day's work ? I say it is absolutely impossible. The result is he feels tired and fagged out, and his only resource is to visit the first public-house he comes to on his way to work, in the vain hope that spirit may stimulate him sufficiently to carry on the day's work. This, I state without fear of contradiction, is a fruitful source of drunkenness.

Intemperance and the housing question are so intimately associated one with the other, the former being a preventible disease, started (in many cases) in the way I have indicated, and the latter following as a result of the former, that, I think, it might with great advantage be considered by all sanitarians.

The landlord is often blamed for the condition of his property. In some instances they are not so particular as they ought to be and allow houses to be occupied which are dilapidated ; others are entirely to blame since they won't do anything to their property, although receiving good rents ; but, on the other hand, the fault more often lies with the tenants themselves, since, owing to their dirty habits, perfectly good houses become almost unfit for habitation. I know of perfectly new houses, which in a few months have become, owing to their carelessness and neglect, almost unfit to live in. These are usually in the poorer parts, where we find two or three families living in a house which was originally intended only for one. This is the class of property that wants to be dealt with.

A course of Health Lectures might, *if the right class of people could be induced to attend*, have some effect in bettering the houses of the poor, by teaching them what a healthy house ought to be.

The Birmingham scheme of Health Visitors, however, is the one which would be most effectual.

COMMON LODGING HOUSES.

There are now eight registered Common Lodging Houses in the Borough, and three are unregistered, which have been dealt with by the Committee.

They have all been visited frequently by P.C. Bell, the Inspector, and on several occasions by myself, with the result that their condition has been considerably improved, although still leaving much room for further improvement.

What constitutes a Common Lodging House?

"The Towns Improvement Clauses Act, 1847," defines a Public Lodging House thus :—" Every house shall be deemed a public lodging house, within the meaning of this Act, in which persons are harboured or lodged for hire for a single night, or for less than a week at one time, or any part of which is let for less than a week."

No. 13 of the Model Bye-Laws of the Local Government Board, 1899, says :—'Lodging House' means a house or part of a house which is let in lodgings or occupied by members of more than one family."

The Law Officers of the Crown, in 1851, when consulted on the point, expressed the following opinion :—"It may be difficult to give a precise definition to the term 'Common Lodging House,' but looking to the preamble and general provisions of the Act (*i.e.*, 'The Common Lodging Houses Act, 1851 ') it appears to us to have reference to that class of lodging houses in which persons of the poorer classes are received for short periods, and, though strangers to one another, are allowed to inhabit one common room." They afterwards explained that "Our obvious intention was to distinguish lodgers promiscuously brought together from members of one family or household."

It would appear from this that the duration of stay has nothing to do with the definition ; indeed, many lodgers stay from one year's end to another.

Appended is a report from the Inspector of Common Lodging Houses.

The following reports have been submitted to the Council during the year, and will shew the condition in which they were found, also what steps it is proposed to take.

REPORT ON COMMON LODGING HOUSES.

June, 1900.

"On Sunday morning, the 10th inst., accompanied by your Inspector of Common Lodging Houses, I visited all of them between the hours of 12 and 3 a.m., so that I might have a better opportunity of judging as to their condition than can be got by a visit during the day, when most of them are empty.

I visited 10 houses, 2 of them are not registered as Lodging Houses, *viz.*, the house of John Cleary, 6, Knowles Street, and that of James Barker, 18, Tennant Street.

Section 77 of the Public Health Act, 1875, states that a person shall not keep a common lodging house unless the house is registered.

300 cubic feet of air space should be the least allowed for each person in common lodging honses.

In 6, Knowles Street, I found 26 persons. In one room there were 11 men, each one having approximately 148 cubic feet of air space, in another room 4 men with 165 cubic feet, and in another 6 men with 240 cubic feet, without any deduction for bed, furniture, &c.

Unless every common lodging house is registered, the Inspector has not the same power over them, the keepers simply ignoring his instructions.

In the house of Bernard McKernan, 46, Park Street, I found two men in a room not registered, although other registered rooms in the house had not their full complement of lodgers.

No. 19 of your bye-laws prohibits this.

Speaking generally all the houses visited were in a filthy condition, the best being that kept by Edward McCarthy, York Street. This one was fairly clean and better ventilated than the rest, but in no one instance were your bye-laws carried out as they should be.

In all the houses, in my opinion, the rooms are registered for too many lodgers, the air in them being most foul; so much so, that as we went in from the fresh air we found it difficult to breathe.

I find, on going into the matter carefully, that after deducting space for the beds and men present in the rooms, the cubic space for each individual will fall considerably short of 300 cubic feet.

Your bye-laws state that each room and passage shall be swept every day and washed at least once in every week. Many of them, I am confident, had not been swept for at least a week, and I would not venture to state when they were washed.

The beds and bedding were, without exception, in a filthy condition, vermin abounding in most of the rooms.

In some, men were even lying on beds with no covering whatever.

Washing accommodation is entirely unprovided for, the lodgers, I conclude, if they wished to wash, having to go to the tap in the back yard.

The only receptacle for slops, &c., was a pail in each room, common to all the lodgers.

The kitchens, although in some cases less objectionable, were not at all desirable for so many men to congregate.

The inhabitants of these houses are single men, working mostly as labourers, some at the docks, where they could easily become infected with some infectious disease, and once such a disease as small-pox started amongst them, I fear we would have great difficulty in stamping it out.

To live under such conditions is a serious menace, not only to the public health, but also to the morals of the people; can we blame them for taking refuge in the public houses? Many of them were drunk at the time of my visit.

A large proportion of lodgers in these houses are tramps, and by keeping such houses open we simply encourage tramps to come to the town, with the result that we expose ourselves to serious risk of epidemic disease.

It has been proved over and over again that the worst epidemics have started in this way.

One of the main causes of overcrowding in this Borough is, that there is no decent accommodation for single men living away from their homes; they have to lodge somewhere, and men with any sense of decency and self-respect, could not be expected to live in lodging houses as they at present exist.

They take lodgings in private houses, with the result that a small house, meant only for one family, contains in many instances, a family and two or three or even more lodgers.

As a remedy for this evil, I would suggest the establishment of one or more, as may be necessary, Municipal Lodging Houses, as has been done with marked success in many towns.

If properly conducted they can be carried on most satisfactorily with no expense to the ratepayers, in fact in most cases a small profit is made, and the advantages to the public health are too well known for it to be necessary for me to point them out.

Fred H. Morison, M.D., D.P.H.,
Medical Officer of Health.

The Medical Officer was instructed to enquire what was being done in other towns.

The following Report was submitted to the Health Committee in September :—

"In accordance with your instructions I have made enquiries in nearly 40 towns in which the Housing of the Working Classes has received practical attention. In some instances cottages have been built, and in others lodging houses. Of the former I need in the meantime say nothing, but the lodging house question is worthy of your serious consideration, for, in my opinion, this is the one solution of the overcrowding problem in the Borough.

I make this statement after duly considering the facts which have been brought to my knowledge in connection with the house-to-house inspection carried on for some months.

We have in West Hartlepool a very large number of single men living away from their homes. Many of them resort to the common lodging houses [on my visit in June, there were 153], but most of them finding accommodation there inferior to that in private houses, drift off to these.

That the conditions under which large portions of our population exist is a matter of importance, the amount of attention now being directed to the subject of the better housing of our poorer classes, sufficiently testifies.

This question has been written on, spoken of, and legislated about, for years. The proof of its necessity, to my mind most ominous, is the large number of would-be recruits who are annually refused admission to our army on account of physical unfitness. In one city alone, out of 11,000 nearly 90 per cent. were refused admission.

Can any argument be produced to shew more clearly the unhealthy conditions in which our poorer population exists ?

To the question—Is it the duty of Municipalities to provide Common Lodging Houses ? I think there can only be an affirmative answer, and for the following reasons :—

1.—Anything which damages the health of the community included in a municipality, injures the municipality in its most vital asset—vigorous humanity.

2.—In-efficiently equipped and managed common lodging houses have this effect.

3.—That the credit of the municipality being greater than that of an individual and its interests more involved, it can erect and carry on common lodging houses more cheaply and better than private persons trading for profit alone are likely to do.

4.—The direct control which it obtains over common lodging houses enables the municipality to check more easily the importation and propagation of various infectious diseases.

5.—By securing to its poor people more air space and healthier surroundings than are generally found in the slums it is providing for the succeeding generation a healthy population as well as actively diminishing ill-health and disease in the existing community.

6.—It is discreditable to the municipality, and bad business management also, to allow any members of its communal family to be housed under conditions which inevitably tend to diminish the common stock of healthiness.

7.—Unwholesome lodging being a largely remediable evil, which, unrelieved, must and does vitally affect the health of a community, it is the duty as well as the interest of that municipality to apply appropriate remedies, in the shape of healthier lodgings, at the cost of the community.

The objections to such schemes are briefly these :—

1.—That the carrying of them out commits the municipality to trading.

2.—That it interferes with private enterprise.

3.—That it will add to the enormous amount of municipal debt.

4.—That it imposes an improper amount of strain on members of municipalities in the matter of management.

The first objection it is not necessary to discuss, the second we will see is in no way interfered with, but rather encouraged.

The third I cannot agree with, as I am confident that a well conducted municipal lodging house in this Borough would be an unqualified success ; the fourth I think we may pass over, as I am sure no member of the Council would object to the small amount of extra work this scheme would entail, once it is in working order, knowing the enormous amount of good it is bound to confer on the community at large.

I submit for your consideration particulars of eight of the best known lodging houses in various parts of the kingdom, one other I was particularly anxious to lay before you, but regret I have had no reply to my circular letter.

You will notice some have cost an enormous amount to build and are worked at a loss ; some are, however, worked at a profit.

I was much struck, on looking over the Aberdeen lodging house, by the elaborate style in which it is built, everything as far as I could judge being most expensive, and was not astonished to find that it was worked at a considerable loss.

To make a lodging house pay, however, is not the object of a municipality.

They should provide lodging houses on precisely the same principle that the State provides every child with a certain amount of education, and every starving person with a certain amount of food and shelter; the principle of common interest dictating a certain minimum standard below which the education, the sustenance, and, in this case, the lodging of the poorest members of the community, shall not be allowed to go.

If this is done—a house built on the standard of minimum comfort and healthiness—it in no way interferes with private enterprise, but rather stimulates it; at the same time it can be worked with efficiency without any expense to the ratepayers.

It is not necessary for me to remind you of the rapid growth of the Borough, and unless something is done to prevent overcrowding now, we will find ourselves placed in the position that so many other towns have done, *viz.*, that the question has become so huge, and the evil so great, that it is almost impossible to grapple with it. One of the main difficulties in most towns being want of space and having to dis-house people to make room for improvements, thus increasing in other parts of the town the very evil we wish to avoid.

I am, Gentlemen,
Your obedient servant,
Fred H. Morison, M.D., D.P.H.,
Medical Officer of Health."

It was resolved that the matter be referred to the Chairman, Councillor Loan, the Borough Engineer, and the Medical Officer of Health, to fully consider the details of the scheme, and that they be asked to visit one or two towns where Municipal Lodging Houses had been established, and report.

The following report was submitted in December:—

"Gentlemen,

In accordance with your instructions, a deputation, consisting of Mr. Alderman Grainger, Mr. Councillor Loan, The Borough Surveyor and the Medical Officer, visited Leith, Lancaster and Darwen on the 14th, 15th and 16th November.

The Leith Model Lodging House was opened in October, 1894, and since that time the total capital cost has been reduced from £8,050 to £5,500 through the application of the surpluses, and the structure and furnishings have been maintained in first-class repair during that period.

The annual wages account amounts to £340.

The expenditure for coals, gas, water, repairs, furnishing, insurance, taxes, cleaning, interest and sinking fund, &c., amounts to £1,260, and the credit balance at the end of the last financial year was £285.

In addition to the Recreation-hall, Dining-hall, Lavatories, Bathrooms, Superintendent's house and office, &c., there is provision for 200 lodgers, there being 180 cubicles and one compartment containing 20 beds.

The charge per night is 5d., and lodgers have full use of the house, including the baths.

Of the 200 beds 178 are, on the average, occupied each night throughout the year.

The Lancaster Corporation have converted two houses, one containing 53 beds, the income from which is £316, the expenditure £305, including £50 rent.

The second house contains 42 beds, the income being £194, and the expenditure £175, including rent of £30.

These houses are not of a high type, and therefore have not raised the standard of the others.

They contained no baths nor foot-baths.

We were not so favourably impressed with these converted houses as with those built for the purpose at Leith and Darwen.

The Lodging House at Darwen was opened in 1896, at a cost of £7,917.

There is provision for 130 lodgers—110 cubicles for men and 20 for women.

The charge per night is 5d., or 2/6 per week.

The annual income amounts to £497, and the annual expenditure to £990, which sum includes taxes, &c., £59; interest upon loans, £225; and redemption of loans, £217.

Although this house is at present worked at a loss, the Members of the Council and the Officials who took us round, upon being closely questioned, unhesitatingly affirmed the necessity of such a provision.

These houses, both in Leith and Darwen, we all felt were well-named "Model."

In them both every necessity and convenience was provided.

The difference between the financial results, is, however, striking ; while that in Leith is worked at a good profit, that in Darwen is worked at a considerable loss.

This, we thought, was owing to the fact that, Darwen being a manufacturing town, the population is more settled, while Leith is very similar to our own town—a large floating population of un-married men.

On our return we one evening visited the registered common lodging houses here, and although they were much cleaner than they had been, we all felt that something ought to be done to better the conditions at present existing.

The Medical Officer of Leith told us that the establishment of the Model Lodging House had distinctly improved the condition of existing Common Lodging Houses without in any way interfering with them. He also said that the men who went to their house had to lodge somewhere, and would go into private lodgings if there was not that accommodation for them, and thus overcrowding would be the result.

Your attention has been drawn to this cause of overcrowding from time to time.

This statement did away with the feeling in our minds that there might be some hardship on the present Lodging House Keepers, should the Municipal Authority establish a Model Lodging House, because it goes to shew that it provides for the class of men who are at present living in lodgings, which are not suitable from a health point of view.

After due consideration of all the facts and figures before us we are unanimously of opinion that a Municipal Lodging House is the best solution of the difficulty, and we feel that one built to embrace the best points of those at Leith and Darwen would be most satisfactory.

Mr. Brown estimates the cost of a suitable house, furnished complete for 150 beds, would be about £7,000.

(Signed)

BARTON GRAINGER, *Chairman of the Health Committee.*
JAMES LOAN.
J. W. BROWN, *Borough Surveyor.*
FRED H. MORISON, *Medical Officer of Health.*

BATHS.

The question of Baths has been accepted by the Corporation ; that it is a very great advantage to an industrial town like West Hartlepool to have good baths there can be no doubt. The question of expense, however, seems at present to be stopping the way.

GENERAL.

Since writing my Report, I have had an intimation from the County Medical Officer, stating that Bacteriological Examination for Diphtheria, Typhoid and Phthisis, is undertaken at the Newcastle College of Science, at the expense of the County Council. Any medical practitioner in the district can obtain the necessary outfit from me.

I take this opportunity of expressing my sincere thanks to Mr. J. W. Brown, Borough Engineer, and Mr. W. Gill Hodgson, Borough Accountant, for much assistance in my work during the year, and to the latter for his valuable aid in compiling the statistics.

Also to Mr. Councillor Lamb for kindly supplying me with the data for the Meteorological Charts, and to the Members of the Health Committee for their invariable kindness to me during the past year.

Appended will be found a Report from the Inspector of Common Lodging Houses.

Tables required by the Local Government Board will also be found annexed, giving Population, Births, Deaths, Infectious Diseases, &c., in Wards and at various Ages for the past 10 years.

A Map of the Borough is also given, in which is shewn the locality of the various Infectious Diseases.

I am, Gentlemen,
Yours faithfully,

FRED. H. MORISON, M.D., D.P.H.,
Medical Officer of Health.

APPENDIX A.

REPORT OF THE INSPECTOR OF COMMON LODGING HOUSES.

P.C. Bell says:—I beg to report that there are eight Registered Lodging Houses in this Borough, *viz.*:—

Edward McCarty, York Street ...	...	for 28	Lodgers
Mary Ann McCabe, Rokeby Street	...	,, 24	,,
Thos. Kilgallan, South Street ...	...	,, 33	,,
Bernard McKernan, Park Street...	...	,, 39	,,
Thos. Braxton, South Street ...	...	,, 15	,,
Sabina Moran, St. John Street ...	...	,, 6	,,
John Cleary, Knowles Street ...	...	,, 17	,,
Catherine McBride, South Street...	...	,, 10	,,

In addition to these there are three Unregistered Lodging Houses, containing from 5 to 9 lodgers.

The Registered Houses have been fairly well conducted as regards the number of lodgers admitted.

I have visited them several times during the last 12 months, after midnight, but have no fault to find in that respect.

Two of the three keepers of unregistered lodging houses have applied to have their houses registered.

I have frequently had to caution Thos. Kilgallan and Mary McCabe about the filthy condition of their kitchens.

I am,
Your obedient servant,
THOMAS BELL

To The Medical Officer of Health.

APPENDIX B.

Rules for Consumptive Patients and those looking after them.

Consumption is a communicable disease.

It may pass from person to person. It may pass from one being to the other, or from one organ to another.

The source of infection is the expectoration of the consumptive. The great danger lies in the drying of the expectoration, and the blowing about of the dried infectious material.

The spread of consumption can be largely prevented. *If the succeeding directions be obeyed, there need be no serious danger in ordinary intercourse with patients. The breath of the consumptive is not directly infectious.*

The patient should expectorate into a jar or cup containing a tablespoonful of Carbolic Acid (1 to 20) or other disinfectant.

The vessel should be changed once in 12 hours, or oftener. It should be cleansed by being filled up with *boiling* water. The combined contents should be poured down the W.C.

The vessel should then be washed with *boiling* water.

When the patient is out of doors, he should carry a pocket spitting flask, such as Dettweiler's or the Victoria Hospital simpler model. The flask should be used and cleansed like the jar. The patient should never spit on the streets.

The patient should not use handkerchiefs for expectoration. If this ever has to be done, the handkerchief should be of inexpensive material, that it may be burned after use.

Squares of rag or paper, which may be used for convenience, should be similarly treated.

The expectoration should on no account be swallowed, for thereby the disease may pass to other organs.

Consumptive patients should avoid kissing.

Consumptive mothers should not suckle.

If expectoration has been accidentally deposited on the floor or other object, it should be wiped up and burned, and the surface of the object cleansed with strong antiseptic.

Rooms which have been long occupied by a consumptive patient should, before occupation by someone else, be carefully disinfected, as after other infectious disease.

Fresh air is the food of the lungs. Therefore, see that the lungs be not starved :—

(*a*) By Day—The patient should occupy as airy a room as possible. It must be scrupulously dry, and preferably removed from the ground. The window should be freely open. When able, the patient should be out of doors once or several times during the day. He must avoid over-effort and damp, or chill, which would counteract the benefit.

(*b*) By Night—He should sleep alone. The bedroom should be large and airy. The window should be kept open, less or more, according to the season.

APPENDIX C.

Advice to Parents upon the Diet and Management of Infants.

WASHING.

During the first four months of life the child should have a warm bath each night and morning, the temperature of the water being about 90° F., and the best soap only employed. At a later period cooler water should be used (80° to 75° F.) On each occasion the whole body should be thoroughly cleansed, especially in the folds of the skin, and thoroughly dried with a warm soft towel.

CLOTHING.

The child must be warmly clad in woollen or flannel garments, the neck, arms, and thighs being especially protected against exposure. Tight bandaging around the waist should be avoided. The napkins require to be examined frequently, and to be changed immediately they become damp.

SLEEP.

The child should be encouraged to sleep in a cot from birth, care being taken that the covering is sufficiently warm, and adjusted when disarranged.

The infant should be taught from the earliest times to sleep at regular intervals. No soothing draughts must be employed except under strict medical supervision.

EXERCISE.

When the weather is fine the child should be taken out into the fresh air at least twice every day, care being taken to protect the body from the cold, and the head from the rays of the sun.

The bedroom must be large, light, and well ventilated, but draughts must be carefully guarded against.

SUCKLING.

If the mother be in good health and has sufficient milk, the infant should receive no other food until seven months old. For the first two months the breast should be given at regular intervals of two hours; between the second and fourth month every two hours and a half; and from the fourth to the seventh month every three hours. The infant should be taught to abstain from food between the hours of 11 p.m. and 5 a.m., in order to ensure six hours' sleep both to itself and its mother. After each meal the nipple and breast must be carefully washed and dried, and any indication of soreness or abrasion should receive immediate attention. If the mother has not sufficient milk to nourish the child, or is unable to feed it at regular intervals, the breast must be supplemented by *cows' milk* properly diluted.

WEANING.

This should always be performed gradually, and if possible during the cool months of the year. *Cows' Milk*, sterilised and diluted with barley water, and occasionally thickened with some form of malted food, is the most convenient diet after the cessation of nursing.

ARTIFICIAL FEEDING OF INFANTS.

GENERAL RULES.

1. For the first six months of life the food should consist entirely of milk. After that period some form of farinaceous food may be required.

2. *Cows' milk*, being cheap and easily obtained, is most suitable in ordinary cases. Under certain conditions, however, asses', or goats' milk may be preferred.

3. Young infants are unable to digest pure cows' milk, owing to its extreme richness and its tendency to produce large masses of curd in the

stomach. In all cases, therefore, the fresh milk must be suitably diluted with barley or rice water.

4. The milk should be given every two hours during the first two months and subsequently every two and a half or three hours, except between the hours of 11 p.m. and 5 a.m., when the child should be encouraged to sleep.

5. As soon as the bottle has been emptied, it should be removed, and the child's mouth carefully wiped with a piece of soft rag soaked in warm water. The child should never be permitted to sleep with the teat in its mouth.

THE MILK :—A fresh supply of milk should be procured twice a day, but only in quantities requisite for immediate use. The slightest degree of acidity, as evidenced by the red coloration of a piece of blue litmus paper, renders the milk unfit for use. Immediately the milk is received it should either be well boiled or sterilised, and afterwards kept in a cool place.

STERILISATION :—This is most conveniently effected by filling three or four feeding bottles with the quantity of diluted milk appropriate for each meal, and firmly plugging their mouths with cotton wool. The bottles are then placed upright in a small saucepan containing water, and the whole placed upon the fire and boiled for forty minutes. When required for use the bottles are immersed in hot water, in order to warm their contents to the temperature of the body, the cotton wool withdrawn, and a clean india-rubber teat fixed over the mouth.

CONDENSED SEPARATED MILK :—This contains only one-tenth the amount of fat (cream) of cows' milk, and is therefore *quite unsuitable as a food for infants. Ten half-pound tins* require to be purchased to obtain the same amount of fat as is in *one pint* of good new milk.

THE FEEDING APPARATUS :—This must be as simple as possible and capable of being easily and thoroughly cleaned. All that is necessary is an oval bottle of sufficient capacity and provided with a soft india-rubber teat which can be drawn over the neck. It is wise to keep at least four of these bottles in constant use. Immediately after a meal the teat is disconnected, turned inside out and well scrubbed with a clean tooth brush. It is then placed in a solution of boracic acid, care being taken to rinse it well in cold water before its next term of duty. The bottle itself is well cleaned, and if necessary boiled in a weak (one per cent.) solution of soda, and kept filled with some mild antiseptic until again required.

SCHEME OF DIET.

For the First Week of Life.

Cows' Milk, 1 tablespoonful; thin barley water, 1 tablespoonful; milk sugar, 15 grains (or as much as would cover a threepenny-piece); *or*

Whey, 3 teaspoonsful; cream, 2 teaspoonsful; milk sugar, 10 grains; hot water, 3 teaspoonsful.

Every two hours.

From the Second to the Fourth Week.

Cows' milk, 2 tablespoonsful; barley water, 2 tablespoonsful; cream, 2 teaspoonsful; milk sugar, 30 grains; *or*

Cows' milk, 2 tablespoonsful; cream, 2 teaspoonsful; milk sugar, 15 grains; water, 2 tablespoonsful.

Every two hours.

From the Fourth to the Eighth Week.

Cows' milk, 9 teaspoonsful; barley water, 6 teaspoonsful; cream, 2 teaspoonsful; milk sugar, 30 grains; water, 1 tablespoonful; *or*

Cows' milk, 2 tablespoonsful; cream, 1 tablespoonful; sugar of milk, 30 grains; water, 10 teaspoonsful.

Every two hours.

From the Third to the Sixth Month.

Cows' milk, 5 tablespoonsful; barley water, 1½ tablespoonsful; milk sugar, 60 grains; cream, 5 teaspoonsful; water, 2½ teaspoonsful; *or*

Cows' milk, 5 tablespoonsful; cream, 1 tablespoonful; milk sugar, 60 grains; water, 2 tablespoonsful.

Every three hours.

From the Seventh to the Tenth Month.

(Five meals a day).

First Meal (7 a.m.)—Cows' milk, 13 tablespoonsful; cream, 1 tablespoonful; milk sugar, 60 grains; water, 2 tablespoonsful.

Second Meal (10.30 a.m.)—Add to the foregoing one tablespoonful of malted food.

Third Meal (2 p.m.)—Same as second.

Fourth Meal (6 p.m.)—Ditto.

Fifth Meal (10 p.m.)—Same as first.

From Tenth to Twelfth Month.

Five meals a day, with the addition of the yolk of an egg, stale bread crumbs, oatmeal, or wholemeal flour occasionally.

TO MAKE BARLEY WATER.

Ingredients.—2 oz. Pearl Barley, 2 quarts of boiling water, 1 pint of cold water.

Mode.—Wash the barley in cold water; put it into a sauce pan with the above proportion of cold water, and when it has boiled for about a quarter of an hour, strain off the water, and add the 2 quarts of fresh boiling water. Boil it until the liquid is reduced one-half; strain and it will be ready for use.

These quantities ought to make one quart of barley water.

APPENDIX D.

INFECTIOUS DISEASES.

Instructions for preventing the spread of Scarlet Fever, Typhoid Fever, Small-pox, and other Infectious Diseases.

To Mr..*of*..

It having been reported to the West Hartlepool Corporation that a case of.. has occurred on the premises occupied by you, at the above address, you are informed that you should—

1. Separate the sick person from the rest of the family, and remove carpets, curtains, and other unnecessary woollen or linen articles from the sick room.

2. Admit fresh air by opening the upper window-sash. Keep the fire lighted, even in summer, to promote ventilation. Allow air to pass freely through the house by means of open windows and doors. Keep the door of the sick room shut.

3. Hang up a sheet outside the door of the sick room, and keep it wet with a quarter-pint of carbolic acid (No. 4), mixed in a gallon of water.

4. Receive all discharges from the patient into a solution of carbolic acid. Add carbolic acid plentifully to the discharges before empyting them into the closet.

5. Pour daily into every sink, closet, or privy, a quantity of the above-named disinfectant.

6. All cups, glasses, spoons, etc., used by the patient, should be first washed in the solution of carbolic acid or sanitas, and afterwards in boiling water.

7. No article of food should be allowed to remain in the room. Any food left by the patient should be burned.

8. All bed and body linen used by the sick person should be at once steeped for a few hours in any of the above-mentioned solutions and afterwards BOILED in water.

9. Instead of handkerchiefs small pieces of rag should be used, and these should be burned when soiled.

10. Persons attending on the sick should wear garments made of cotton or other washable material. Woollen dresses should not be worn. The attendants should wash their hands after waiting on the sick person, using carbolic soap.

11. The sick room must on no account be visited by others than those in immediate attendance on the sick, as visitors are very liable to carry away infection.

12. When recovering, and while the body of the patient is peeling, camphorated or carbolised oil should be rubbed over the sick person every day. The sick person must not be allowed to mix with the rest of the family until the peeling has entirely ceased.

13. Before patients finally leave the sick room they should be carefully washed all over in a bath containing a little carbolic acid, they may then leave the sick room, wrapped only in a clean blanket, so that their clothes are not exposed to infection.

14. When the sickness has terminated, the sick room should be cleansed, and information sent to the Health Office, when an Inspector will attend and thoroughly fumigate the place, and disinfect all clothing that has been in use in the sick room. Afterwards, the room should be freely ventilated, and the ceiling lime-washed, the paper stripped from the walls and burned; if the walls have been previously lime-washed, lime-washing should be repeated; and the furniture and all wood-work washed with carbolic soap and water. All bedding and articles that cannot be washed and boiled must be disinfected at the Corporation Disinfecting Chamber. Until this process of disinfection is properly carried out the room cannot be safely occupied.

15. Children must on no account be allowed to attend school from a house in which there is infectious disease.

16. In case of death, the body should not be removed from the room, except for burial, unless taken to a mortuary, nor should any article be taken from it until disinfected, as directed in Rule 14. The body should be quickly put into a coffin with 2lbs. of carbolic acid powder. The coffin should be fastened down and the body buried without delay.

N.B.—Carbolic Acid and other disinfectants may be bought of any Druggist, or may be had gratis at the office of the Sanitary Inspector, Municipal Buildings, by those who cannot afford to buy them.

PENALTIES.

Attention is particularly directed to the following provisions of the Public Health Act in reference to "Infectious Diseases."

1. The owner or occupier may be required to lime-wash and cleanse any house or rooms, and the articles in it likely to retain infection—where infectious disease has existed—under a penalty not exceeding 10/- a day for neglect.

2. If any person suffering from any dangerous infectious disorder shall enter a cab or other public conveyance without informing the driver thereof that he is so suffering, he shall be liable to a penalty not exceeding £5.

3. Any person suffering from any dangerous infectious disorder—such as fever, scarlet fever, small pox, etc.—who exposes himself in any street, school, church, chapel, theatre, or other public place, or in any omnibus or other public conveyance, and any person in charge of one so suffering, who so exposes the sufferer, shall be liable to a penalty not exceeding £5.

4. Any person who, without previous disinfection, gives, lends, sells, or moves to another place, or exposes any bedding, clothing, rags, or other things which have been exposed to infection, becomes liable to a penalty not exceeding £5.

5. Any person who lets a house, room, or part of a house, in which there has been infectious disease, without having such house or room, and all articles therein liable to infection, disinfected, is liable to a penalty not exceeding £20.

6. If any person who lets or shows for hire any house or part of a house makes any false statement as to the fact of there being in such house, or having within six weeks previously been therein, any person suffering from an infectious disease, such person answering falsely shall be liable to imprisonment, with or without hard labour, to a penalty not exceeding £20.

Fred. H. Morison, M.D., D.P.H.,
Medical Officer of Health.

Thos. Wheat,
Sanitary Officer,
Municipal Buildings,
West Hartlepool.

I.—Table of BIRTHS and DEATHS *occurring in the Borough of West Hartlepool, for the 10 years ended 1900.* (For the Whole District.)

Year	Population estimated to Middle of each Year	Births		Deaths under One Year of Age		Deaths at all Ages. Total		Deaths in Public Institutions	Deaths of Non-residents registered in District †	Deaths of Residents registered beyond District †	Deaths at all Ages Nett	
		Number	Rate*	Number	Rate per 1,000 Births registered	Number	Rate*				Number	Rate*
1	2	3	4	5	6	7	8	9	10	11	12	13
1891	42,476	1,631	38·4	247	151	753	17·17	...	...	...	...	...
1892	42,476	1,648	38·8	219	132	673	15·8	43	...	43	716	16·8
1893	46,435	1,667	35·9	305	182	804	17·3	50	...	50	854	18·3
1894	48,195	1,651	34·4	207	125·9	647	13·4	54	...	54	701	14·6
1895	50,020	1,741	34·8	259	148·7	734	14·6	81	2	81	813	16·2
1896	51,920	1,688	32·3	213	126·1	694	13·3	65	6	65	753	14·5
1897	53,880	1,798	33·37	227	129	683	12·6	69	6	73	750	13·9
1898	58,500	1,611	27·55	290	180	809	13·8	57	7	64	866	14·8
1899	61,060	2,063	33·82	394	191	1,053	17·2	73	6	75	1,122	18·4
Averages for years 1891—1899	50,100	1,722	34·2	262	152	761	15·1	61·5	5·4	63	822	15·9
1900	61,500	2,162	35·1	280	129	891	14·4	81	11	82	962	15·6

* Rates calculated per 1,000 of estimated population.

† By the term "Non-residents" is meant persons brought into the district on account of illness, and dying there; and by the term "Residents" is meant persons who have been taken out of the district on account of illness, and have died elsewhere.

FRED H. MORISON, M.D., D.P.H.

Area of District in acres (exclusive of area covered by water). } High Water..............2,558 acres.

Total population at all ages 42,476
Number of inhabited houses 7,711
Average number of persons per house .... 5·67
} At Census of 1891.

II.—Table of BIRTHS AND DEATHS *occurring in the Borough of West Hartlepool, for the years 1898 and 1899* (CLASSIFIED IN WARDS).

NAMES OF LOCALITIES WARDS	1. NORTH				2. WEST				3. PARK				4. SOUTH-WEST				5. SOUTH-EAST				6. CENTRAL				7. NORTH-EAST				8. SEATON			
YEAR	Population estimated to middle of each Year	Births registered	Deaths at all Ages	Deaths under 1 year	Population estimated to middle of each year	Births registered	Deaths at all Ages	Deaths under 1 year	Population estimated to middle of each year	Births registered	Deaths at all Ages	Deaths under 1 year	Population estimated to middle of each year	Births registered	Deaths at all ages	Deaths under 1 year	Population estimated to middle of each year	Births registered	Deaths at all Ages	Deaths under 1 year	Population estimated to middle of each year	Births registered	Deaths at all Ages	Deaths under 1 year	Population estimated to middle of each year	Births registered	Deaths at all ages	Deaths under 1 year	Population estimated to middle of each year	Births registered	Deaths at all ages	Deaths under 1 year
	a.	*b.*	*c.*	*d.*	*a.*	*b.*	*c.*	*d.*	*a.*	*b.*	*c.*	*d.*	*a.*	*b.*	*c.*	*d.*	*a.*	*b.*	*c.*	*d.*	*a.*	*b.*	*c.*	*d.*	*a.*	*b.*	*c.*	*d.*	*a.*	*b.*	*c.*	*d.*
1890 ...	*																															
1891 ...																																
1892 ...																																
1893 ...																																
1894 ...																																
1895 ...																																
1896 ...																																
1897 ...																																
1898 ...	7,190	...	93	29	9,380	...	111	46	7,785	...	89	25	9,960	...	136	54	7,868	...	123	48	9,660	...	151	60	4,418	...	66	19	2,214	...	40	9
1899 ...	7,672	288	107	50	10,159	364	135	51	8,425	237	117	46	10,290	369	150	69	8,221	293	190	65	9,497	329	198	73	4,586	112	86	25	2,150	71	40	11
Averages of Years 189 to 1899																																
1900 ...	7,638	290	99	38	10,233	379	138	37	8,569	275	92	32	10,389	381	130	41	8,345	321	139	49	9,684	347	184	54	4,632	108	78	17	2,215	61	31	12

* These data cannot be ascertained.

FRED H. MORISON, M.D., D P.H.

III.—Table shewing CASES OF INFECTIOUS DISEASE *notified in the Borough of West Hartlepool during the year 1900.*

NOTIFIABLE DISEASE	CASES NOTIFIED IN WHOLE DISTRICT							TOTAL CASES NOTIFIED IN EACH LOCALITY (WARDS)								NO. OF CASES REMOVED TO HOSPITAL FROM EACH LOCALITY							
	At all Ages	At Ages—Years						1	2	3	4	5	6	7	8	1	2	3	4	5	6	7	8
		Under 1	1 to 5	5 to 15	15 to 25	25 to 65	65 and upwards	North	West	Park	South-West	South-East	Seaton	North-East	Central	North	West	Park	South-West	South-East	Seaton	North-East	Central
Small-pox	10	0	0	1	5	4	0	2	2	1	2	1	...	...	2	2	2	1	2	1	...	...	2
Cholera	0	0	0	0	0	0	0	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Diphtheria ... Membranous croup	16	1	3	9	1	2	0	6	4	1	1	2	...	...	2	...	...	...	..	...	...	...	...
Erysipelas	24	0	0	1	2	20	1	3	5	4	...	5	2	...	5	...	...	...	...	...	...	...	...
Scarlet fever	143	1	67	72	2	1	0	22	30	24	36	17	3	2	9	2	1	4	2	6	...	...	1
Typhus fever	0	0	0	0	0	0	0	...	...	...	...	...	...	...	...	...	...	...	...	...	...	..	...
Enteric fever	25	0	0	9	7	9	0	2	6	1	6	1	1	1	7	...	...	...	1	...	...	...	1
Relapsing fever	0	0	0	0	0	0	0	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	..
Continued fever	1	...	1	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...
Puerperal fever	1	...	...	...	1	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...
Plague	...	...	...	...	...	...	...	...	...	...	...	..	...	...	...	..	...	...	...	...	...	...	...
Totals	220	2	71	92	18	36	1	35	47	31	45	28	6	3	25	4	3	5	5	7	...	...	4

FRED H. MORISON, M.D., D.P.H.

IV.—Table shewing CAUSES OF DEATHS (WITH AGES) *occurring within the Borough of West Hartlepool, during the year* 1900.

Cause of Death	Deaths in whole District at subjoined Ages							Deaths in Localities (at all Ages) Wards							
	All ages	Under 1	1 and under 5	5 and under 15	15 and under 25	25 and under 65	65 and upwards	North	West	Park	South-West	South-East	Central	North East	Seaton
Small-pox	0	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Measles	3	...	3	...	...	...	...	...	...	...	...	2	1	...	...
Scarlet fever	3	...	2	1	...	...	...	...	1	...	1	...	1	...	...
Whooping-cough	16	7	7	1	1	...	...	3	3	2	...	1	5	1	1
Diphtheria and membranous croup ...	7	1	...	6	...	...	...	1	5	...	...	...	1	...	...
Croup	1	...	1	...	...	...	...	1	...	...	...	...	...	...	...
Fever { Typhus	0	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Fever { Enteric	5	...	...	1	...	4	...	...	1	...	1	1	1	...	1
Fever { Other continued	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Epidemic influenza	22	...	1	...	2	11	8	2	5	3	...	3	5	4	...
Cholera	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Plague	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Diarrhœa	33	23	8	1	...	1	...	2	2	1	8	8	8	2	2
Enteritis	32	21	7	...	...	1	3	4	4	2	5	5	8	4	...
Puerperal fever	2	...	...	...	1	1	..	...	...	1	...	1	...	...	...
Erysipelas	3	...	...	...	...	1	2	...	...	...	...	1	...	1	1
Other septic diseases	8	1	...	...	...	5	2	1	2	1	...	1	2	1	...
Phthisis	72	...	3	2	18	48	1	7	9	7	12	12	14	10	1
Other tuberculous diseases	64	27	17	10	1	9	...	7	11	7	2	12	16	5	4
Cancer, malignant disease	23	...	...	...	1	18	4	...	6	1	4	2	3	6	1
Bronchitis	101	34	16	2	1	21	27	7	16	6	16	19	23	9	5
Pneumonia	101	29	18	2	9	39	4	14	18	10	12	13	22	8	4
Pleurisy	1	...	...	...	...	1	...	1	...	...	...	...	...	...	...
Other diseases of Respiratory Organs...	10	2	4	...	...	3	1	2	3	3	1	...	1	...	...
Alcoholism Cirrhosis of liver }	8	...	...	...	...	7	1	...	...	2	1	1	2	2	...
Venereal diseases	3	2	...	...	...	1	...	...	...	...	2	...	...	...	1
Premature birth	42	42	...	...	...	...	...	5	3	10	7	6	9	1	1
Diseases and accidents of parturition...	4	...	...	...	1	3	...	1	1	...	...	1	...	...	1
Heart diseases	64	3	...	2	2	34	23	3	13	7	8	9	16	6	2
Accidents	15	...	2	...	3	9	1	2	...	1	3	1	3	4	1
Suicides	0	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Insufficient or improper feeding ...	30	30	...												
Debility at birth	14	14	...												
Senile decay	32	...	...	...	...	...	32	...	...	...	...	...	...	...	..
All other causes	161	41	26	8	5	57	24	35	34	27	47	40	41	8	5
All causes	880	277	115	36	45	274	133	98	137	91	130	139	182	72	31

FRED H. MORISON, M.D., D.P.H.

V.—Table giving COMPARISON OF PREVALENCE OF SICKNESS AND DEATH FROM INFECTIOUS DISEASES *in the Borough of West Hartlepool, for the* 10 *years ended* 1900.

YEAR	SMALL-POX		ERYSIPELAS		DIPHTHERIA AND MEMBRANOUS CROUP		SCARLET FEVER		ENTERIC AND CONTINUED FEVER		PUERPERAL FEVER	
	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths
1891	0	0	18	2	10	9	46	3	24	6	0	0
1892	8	1	11	2	31	18	117	6	21	7	1	1
1893	7	0	19	0	14	8	133	4	50	10	1	0
1894	12	3	23	1	40	22	62	0	40	8	1	1
1895	1	0	8	2	23	14	184	15	63	8	1	0
1896	2	0	32	2	14	4	210	15	42	2	2	2
1897	0	0	23	2	6	2	87	4	39	8	0	0
1898	9	0	19	0	11	7	96	2	24	4	0	0
1899	0	0	28	0	15	7	41	1	31	7	1	1
1900	10	0	24	3	16	7	143	3	26	5	2	2

FRED H. MORISON, M.D., D.P.H.

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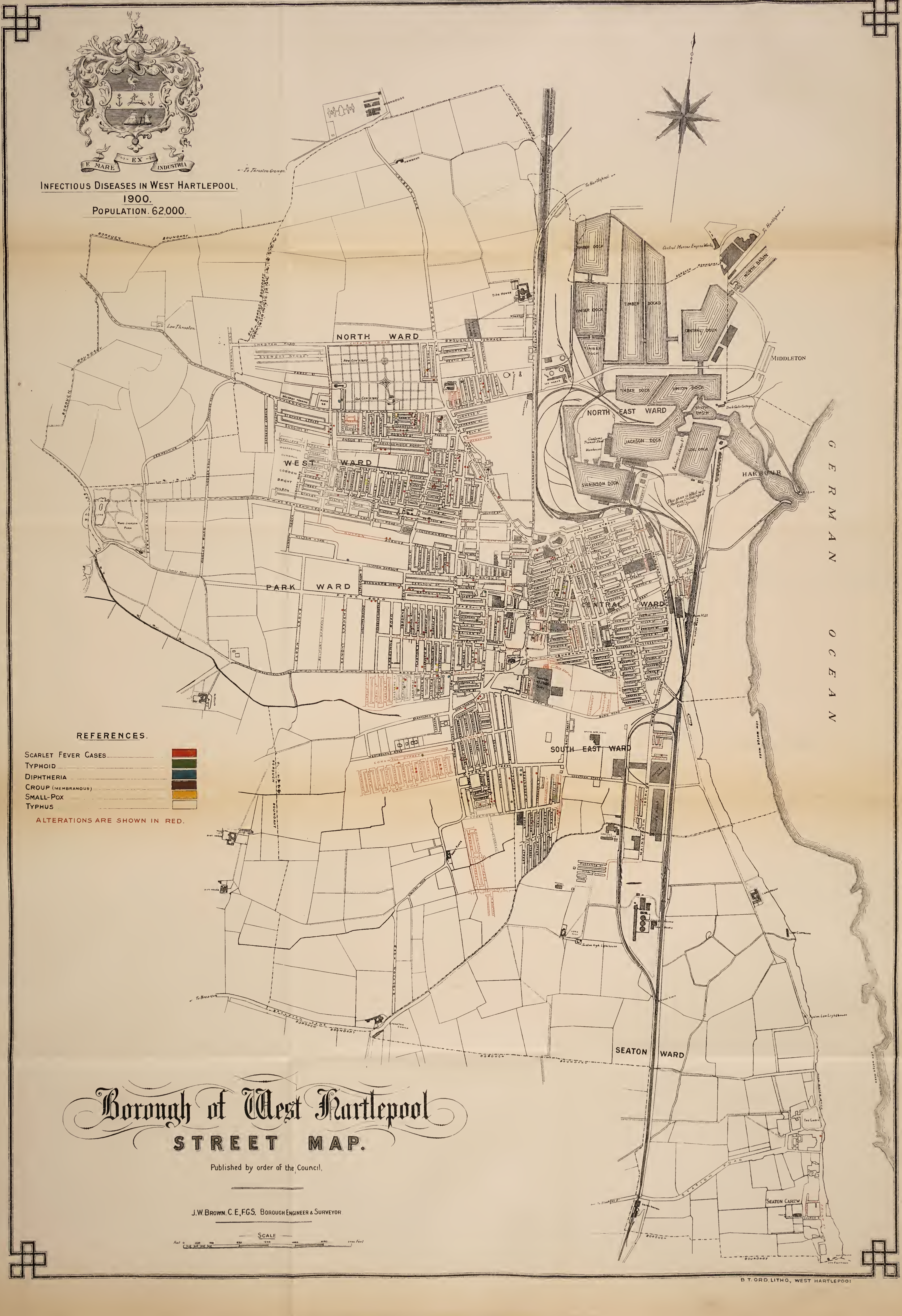

INFECTIOUS DISEASES IN WEST HARTLEPOOL.
1900.
POPULATION. 62,000.

REFERENCES.

SCARLET FEVER CASES	🟥
TYPHOID	🟩
DIPHTHERIA	🟦
CROUP (MEMBRANOUS)	🟫
SMALL-POX	🟨
TYPHUS	☐

ALTERATIONS ARE SHOWN IN RED.

Borough of West Hartlepool
STREET MAP.

Published by order of the Council.

J. W. BROWN. C. E., F.G.S. BOROUGH ENGINEER & SURVEYOR.

SCALE

B. T. ORD, LITHO, WEST HARTLEPOOL